PRODUCTION AND ECONOMIC PERFORMANCE OF BROILER CHICKEN (*Gallus domesticus)* FED WITH FERMENTED COCONUT DREGS USING YEAST (*Saccharomyces cerevisiae)*

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CERTIFICATE OF PANEL APPROVAL

This research paper, entitled **"PRODUCTION AND ECONOMIC PERFORMANCE OF BROILER CHICKEN *(Gallus domesticus)* FED WITH FERMENTED COCONUT DREGS USING YEAST (*Saccharomyces cerevisiae*)"**, prepared and submitted by HANNA JEAN A. ESLIT, RUFO L. MONTE JR. JOSE RAMIL L. TAYONG, in fulfillment of the requirements for the degree of **Bachelor of Science in Agriculture,** has been examined and is recommended for acceptance and approval.

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Hanna Jean
Jose Ramil
Rufo

DEDICATION

This work is humbly dedicated to those who have been our constant source of inspiration, encouragement, and support throughout this journey.

We dedicate this work to our beloved parents and families for their unconditional love, support, encouragement, and sacrifices that inspired us to persevere despite all challenges and difficulties.

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Hanna Jean
Jose Ramil
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ABSTRACT

This study addresses the limited utilization of locally available alternative feed resources, particularly coconut dregs, in broiler chicken production in Ozamiz City, where rising feed costs pose a major constraint to poultry farmers. It evaluated the growth performance, feed utilization, carcass traits, and economic returns of broiler chickens *(Gallus domesticus)* fed with fermented coconut dregs using yeast *(Saccharomyces cerevisiae).* The experiment was conducted at the Misamis University Experimental Site, Bañadero Farm, Ozamiz City, Misamis Occidental, from March to April 2025. The experiment was laid out in a Completely Randomized Design (CRD) with three replications using a factorial arrangement. Treatments consisted of three fermentation periods: A1 – 0 days, A2 – 5 days, and A3 – 10 days; and four inclusion levels of fermented coconut dregs: B1 – 0%, B2 – 3%, B3 – 6%, and B4 – 9%, giving twelve treatment combinations. Results showed that fermentation duration and inclusion levels had no significant effect ($p > .05$) on most measured parameters; however, initial weight showed a significant difference among treatments. Numerical trends indicated that broilers fed 10-day fermented coconut dregs and those with a 3% inclusion level exhibited relatively better performance, while higher inclusion levels (6% and 9%) tended to result in lower values. The findings suggest that fermented coconut dregs using *Saccharomyces cerevisiae* can be used as an alternative feed ingredient without adversely affecting broiler performance and may serve as a sustainable and cost-efficient option when applied at moderate inclusion levels.

Keywords: cost-benefit performance, dietary inclusion rates, dressing characteristic, fermented coconut dregs, feed efficiency ratio

INTRODUCTION

Background of the study

Farmers worldwide are raising broiler chickens, as they are a primary source of poultry meat, with global production increasing significantly during the 1960s (Chang, 2023). The Philippine broiler industry has been growing, with 75-80% of farms being commercial operations and 20-25% small-scale. The total chicken inventory as of 31 December 2025 is approximately 217.23 million birds. It increased by 5.2% compared to the last year, which was 206.43 million birds (PSA, 2025).

In the Philippines, chickens, specifically broilers, represent the most economically significant source of both meat and eggs (Damme, 2015). Broilers, which are chickens bred for their meat, have been an integral component of the Filipino diet due to their role as a source of animal protein (Islam, 2022). Broiler farming serves as a crucial source of income for numerous Filipino farmers, yielding positive social and economic outcomes (Hisyam et al, 2023). Through leisure activities, this industry not only fosters financial stability but also promotes overall well-being. However, it also enhances the quality of life for these farmers (Prayitno, 2024). With the growing middle class and rising incomes in the Philippines, there is a surge in demand for chicken products, especially broilers. This demand has led to lucrative opportunities for farmers and entrepreneurs in the broiler market. However, poultry farmers in the Philippines encounter considerable issues concerning feed cost, which has developed into a situation worsened by the nation's heavy reliance on imported ingredients. Local grain production is insufficient to meet demand (Yamazaki et al, 1988). Due to this dependence on imports, input costs rise, resulting in reduced efficiency in both production and marketing systems (Chang, 2004). Feed expenses represent the majority of production costs, primarily due to shortages of energy and protein sources (Yamazaki et al, 1988). Although some local by-product feeds are available, they generally lack sufficient nutritional value, making it challenging to provide a balanced diet without the inclusion of imported supplements (Yamazaki et al., 1988). These challenges are not limited to the Philippines; other regions, such as the South Pacific, also face similar issues regarding feed costs (Devi et al, 2019). Therefore, there is a pressing need to explore locally available alternative protein sources for use as feed supplements in poultry.

The use of *Saccharomyces cerevisiae* to ferment coconut dregs has been quite successful in broiler chicken nutrition. Several studies have reported that feeding fermented coconut dregs increases growth performance, feed digestibility, and meat quality in broilers. Fermentation reduces lipid and crude fibre but increases protein yield (Hafsah, 2020). On the other hand, supplementation with fermented coconut using coconut dregs, a by-product of the copra industry and often discarded in landfill sites as an alternative feed ingredient for poultry, shows promising opportunities to reduce costs while maintaining productivity. Coconut dregs can improve nutritive cum economic value by reducing lipid and crude fibre content while enhancing protein and amino acid levels (Hafsah et al, 2020). It contains crude protein at 23%, which is derived from coconut dregs, and the fibre is easily digestible, making it a potential source of energy with advantageous properties (Derick, 2014). The addition of fermented coconut dregs up to 40% has not had a significant effect on ration consumption, ADG, and FCR (Sudarmi, 2020). While the economic implications are key, coconut dregs have a high potential to reduce feed costs while maintaining poultry production (Bonon, 2026). On the other hand, the availability of nutrients in feed ingredients must also be taken into consideration when formulating feeds (PCAARRD, 2000). The difficulty when formulating alternative feeds is that they contain fewer nutrients than conventional feeds (Kumar et al, 2025).

The yeast species *Saccharomyces cerevisiae* has been successful when used as a feed additive for broiler chickens. Supplementation of broiler diets improved growth performance and carcass quality. Previous studies have reported the beneficial effects of dietary yeast supplementation on body weight gain and feed conversion ratio in broiler chickens (Miazzo et al., 2005). Body weight gain, feed intake, and FCR were significantly improved by yeast supplementation (Paryad, 2008). Yeast supplementation also decreased abdominal fat deposition and reduced plasma cholesterol, along with triglyceride reduction, whereas increased HDL levels of blood serum were observed (Miazzo et al, 2005).

The excellent carcass quality of broiler chicken was also noticed with yeast supplementation (Paryad, 2008). Therefore, the results indicated that *S. cerevisiae* can be used in broilers instead of antibiotic growth promoters and as a mycotoxin adsorbent during animal production activities. On the other hand, supplementation with fermented coconut dregs can improve body weight gain and dry matter digestibility in broilers (Hatta et al, 2021). In general, fermented coconut dregs have proven to function as natural growth promoters and possess antimicrobial and antioxidant properties that are beneficial for broilers (Sugiharto, 2021).

Although the research is limited to the fermentation of coconut dregs, particularly in broiler chicken diets, it seems to be interesting. Little has been done to investigate how the use of fermented coconut dregs could help in controlling growth performance, thus leading to extensive shortages, especially in poultry science. Coconut dregs are often used as animal feed in the poultry industry; however, it has a relatively low nutritive value, so the present study hypothesized using *S. cerevisiae* in order to promote its fermentation and consequently increase the nutritional quality, which might result in an enhanced growth performance of broiler chickens.

The study aimed to develop feeding strategies using various feed formulations incorporating fermented coconut dregs to improve nutritional output, thereby increasing the growth rate and productivity of broiler chickens, benefiting the local economy in a more sustainable yet cost-efficient manner and supporting the utilization of waste and locally available resources. Ultimately, this research seeks to provide an alternative, practical feeding option that can help farmers reduce production costs while maintaining high standards of broiler performance and welfare.

Objectives of the Study

The study aimed to evaluate the effectiveness of fermented coconut dregs using Saccharomyces *cerevisiae* in the growth performance, feed utilization, carcass traits, and economic returns of broiler chickens. Specifically, this study aimed to:

1. determined the growth performance in terms of the initial weight, final weight, weight gain of broiler chicken fed with fermented coconut dregs using *S. cerevisiae*;
2. determined the feed utilization of broiler chicken influenced by days of fermentation and different levels of fermented coconut dregs using *S. cerevisiae*;

3. determined the carcass traits of broiler chicken influenced by days of fermentation and different levels of fermented coconut dregs using *S. cerevisiae*;
4. determined the economic returns of broiler chicken influenced by days of fermentation and different levels of fermented coconut dregs using *S. cerevisiae* and;
5. determined the interaction between days of fermentation and different levels of coconut dregs of broiler chicken, influenced with fermented coconut dregs using yeast *S. cerevisiae*.

Hypotheses

This study proved the following hypothesis:

Null Hypothesis (H_o)

1. There is no significant difference in the growth performance of broiler chickens influenced by different levels of fermented coconut dregs using *S. cerevisiae*.
2. There is no significant difference in the feed utilization of broiler chicken influenced by different levels of fermented coconut dregs using *S. cerevisiae*.
3. There is no significant difference in the carcass traits of broiler chicken influenced by different levels of fermented coconut dregs using *S. cerevisiae*.
4. There is no significant difference in the economic performance of broiler chicken influenced by different levels of fermented coconut dregs using *S. cerevisiae*.
5. There is no significant difference in the interaction of different fermentation duration and different mixture levels of broiler chicken influenced by different levels of ferment-ted coconut dregs using *S. cerevisiae*.

Significance of the Study

The rising costs of commercial poultry feed present significant challenges for farmers, particularly in broiler production. Utilizing locally available alternative feed ingredients, such as coconut dregs, can help address this issue. However, the nutritive value of these alternative feeds is lower than that of commercial feeds.

This study explores the fermentation of coconut dregs using *S. cerevisiae* to enhance its nutritive value and assess its impact on the growth performance of broiler chickens. It focuses on improving the quality of locally available feed inputs to more efficiently enhance broiler growth and production capacity. Economically, using fermented coconut dregs could reduce purchased inputs in commercial feeds, thereby enhancing income for both 'backyard' and 'large-scale' producers.

Moreover, the study contributes to the scientific literature on sustainable feed production techniques by introducing the use of fermented coconut dregs using yeast in animal nutrition. The findings could support the development of more sustainable agricultural practices that reduce feed costs, promote food security, and encourage the adoption of innovative, eco-friendly feed alternatives that enhance the poultry industry's sustainability and productivity.

Scope and Limitations of the Study

The study aimed to determine the effects of coconut dregs fermented with *Saccharomyces cerevisiae* on the production and economic performance of broiler chickens *(Gallus domesticus).* It was conducted at Bañadero Farm, Misamis University, Ozamiz City, Misamis Occidental. The objectives were to determined initial and final weights, total weight gain, average feed consumption, and feed efficiency. The experiment used a 4x3 factorial design in a Complete Randomized Design (CRD) with three replications. The dietary treatments included: Factor A - Days of Fermentation with *S. cerevisiae*, and Factor B – Feed formulations, which involved commercial feeds supplemented with varying levels of fermented coconut dregs. The objectives of the study were to: (1) determined growth performance in terms of initial weight, final weight, and weight gain of broiler chickens fed fermented coconut dregs using yeast; (2) determined feed utilization influenced by days of fermentation and different levels of fermented coconut dregs; (3) determined carcass traits affected by fermentation duration and dreg levels; (4) determined economic performance under these treatments; and (5) determined the interaction between fermentation days and dreg levels. *Saccharomyces cerevisiae* was used to ferment coconut dregs for 0, 5, and 10 days to prepare the feed. Broiler chickens were fed these fermented formulations for 20 days.

Definition of Terms

This section gives clear definitions of specialized terms and concepts. It helps readers understand the specific words used in the research.

Body weight gain refers to the increase in weight of broilers during a specific period, typically measured in kilograms.

Broiler chickens are a type of chicken that people raise mainly for meat. Known for their pump bodies and tender meat, they are a popular choice for poultry consumption.

Carcass percentage in broiler chickens is the proportion of the chicken's carcass weight to its live body weight, expressed as a percentage. It is a crucial parameter in poultry production for evaluating meat yield and overall productivity.

Carcass traits are qualitative or quantitative measurements of the body after slaughtering, defeathering, and evisceration, used to evaluate meat yield and quality.

Commercial feed refers to pre-formulated feed products that are designed to provide balanced nutrition for poultry.

Coconut dregs refer to the by-product left after extracting coconut milk or oil from grated coconut.

Economic returns are the monetary benefits, gains, or losses generated by an investment or activity.

Feed conversion ratio (FCR) shows how well feed is used. It is calculated by dividing the amount of feed eaten by the weight gained.

Feed utilization indicates how effectively birds transform the feed they consume into body weight gain, a vital metric for profitability, typically represented by the feed conversion ratio.

Fermentation is a metabolic process that transforms carbohydrates into alcohol or organic acids through the action of microorganisms such as yeast.

Final weight refers to the weight of the broiler chicken at the end of the growth cycle, typically when it reaches market weight.

Growth performance indicates observable indicators of the growth and advancement of broiler chickens. This encompasses weight increase and feed conversion efficiency.

Locally sourced feed ingredients are components used in animal feed that are cultivated or produced within a particular area, like copra dregs, which serve as an alternative to imported feed sources for poultry feed formulation.

Saccharomyces cerevisiae is a type of yeast that is extensively utilized in multiple sectors, such as food, beverages, and biotechnology. It is often referred to as baker's yeast or brewer's yeast due to its crucial role in baking, brewing, and winemaking activities.

MATERIALS AND METHODS

Date and Place of the Study

The research was conducted at the Misamis University experimental Site, located in Bañadero Farm, Ozamiz City, Misamis Occidental, Philippines. The study took place from March to April 2025. (Figure 1)

A. Map of the Philippines emphasizing the province of Misamis Occidental
B. Section of Misamis Occidental's map displaying Ozamis
C. Aerial view of the experimental site

Materials

The materials that were used in the study are one hundred eighty (180) broiler chicks, commercial feeds, feed ingredients (coconut dregs or ‘sapal’, *Saccharomyces cerevisiae*), incandescent light bulb, vitamins, antibiotics, poultry house, brooding cages, rearing cages, digital weighing scale, record-book and pen, plastic basin, plastic pail, metal drum, polypropylene bags, and some laboratory equipment.

Methods

Experimental Design and Treatments

The study was laid out in a 4x3 factorial experiment using a Complete Randomized Design (CRD) with three (3) replications. The factors in the study were the days of fermentation of coconut dregs (Factor A) and commercial feeds supplemented with varying levels of fermented coconut dregs (Factor B). One hundred eighty (180) heads of growing broiler chickens were allocated, with five (5) heads distributed in each of the replications.

Days of fermentation (Factor A) included A1– 0 days fermentation; A2 – 5 days; A3 – 10 days. Different inclusion levels of fermented coconut dregs (Factor B) included the following: B1- Commercial feeds only; B2- 3 percent of fermented coconut dregs; B3- 6 percent fermented coconut dregs; B4- 9 percent of fermented coconut dregs. The formulations were fermented with *Saccharomyces cerevisiae* and subsequently fed to broiler chickens for 20 days. Growth performance was monitored and recorded throughout the experimental period.

Treatments, Treatment Combinations, and Treatment Code

Table 1 shows the treatment combinations and codes used in the study on fermented coconut dregs with yeast (*Saccharomyces cerevisiae*) for broiler chicken production and economic performance. The experiment followed a 4 x 3 factorial design consisting of two factors: fermentation duration and levels of fermented coconut dregs (FCD). Factor A included three fermentation periods: 0 days (A1), 5 days (A2), and 10 days (A3). Factor B consisted of four FCD inclusion levels: 0% (B1), 3% (B2), 6% (B3), and 9% (B4). The combination of these factors resulted in 12 treatments (T1–T12).

Table 1. Treatments, treatment combinations, and treatment codes of the study on fermented coconut dregs using yeast (*Saccharomyces cerevisiae*) on the Production and Economic Performance of Broiler chicken.

Days of Fermentation (Factor A)	Different levels of coconut dregs (Factor B)	Treatment Combination	Treatment Code	Treatment #
A1 – 0 days	B1 – 0% FCD	WYeast– 0% FCD, 0 DoF	A_1 B_1	T1
	B2 – 3% FCD	WYeast– 3% FCD, 0 DoF	A_1 B_2	T2
	B3 –6% FCD	WYeast – 6%FCD,0 DoF	A_1 B_3	T3
	B4 –9% FCD	WYeast – 9%FCD,0 DoF	A_1 B_4	T4
A2 – 5 days	B1– 0% FCD	WYeast – 0% FCD, 5 DoF	A_2 B_1	T5
	B2 –3% FCD	WYeast –3% FCD, 5 DoF	A_2 B_2	T6
	B3– 6% FCD	WYeast – 6%FCD,5 DoF	A_2 B_3	T7
	B4– 9% FCD	WYeast – 9%FCD,5 DoF	A_2 B_4	T8
A3 – 10 days	B1– 0% FCD	WYeast – 0% FCD, 10 DoF	A_3 B_1	T9
	B2 –3% FCD	WYeast –3% FCD, 10 DoF	A_3 B_2	T10
	B3– 6% FCD	WYeast – 6% FCD, 10 DoF	A_3 B_3	T11
	B4– 9% FCD	WYeast – 9% FCD, 10 DoF	A_3 B_4	T12

Experimental Layout

The study utilized one hundred eighty (180) growing broiler chickens for the 4x3 factorial experiment with three (3) replications in a Complete Randomized Design (CRD).

Each block consisted of twelve (12) treatment combinations with five (5) broiler chickens per treatment. The study layout was presented in Appendix H.

Experimental Procedure

Collection of coconut dregs

Coconut dregs also known as 'sapal' were purchased from a traditional local market, already finely ground to a particle size of approximately 1–2 mm. The collected dregs were sun dried for three (3) days to reduce moisture content. During the drying process, the coconut dregs were stirred regularly to ensure uniform drying and to prevent spoilage. The dried coconut dregs were used as a solid substrate for fermentation. Prior to fermentation, the material was sterilized through autoclaving for 2 hours. After sterilization, the coconut dregs were allowed to cool to room temperature.

Fermentation of Coconut Dregs using Yeast (Saccharomyces cerevisiae)

During fermentation, the fine, dried coconut dregs were carefully mixed with the yeast. The baker's yeast *Saccharomyces cerevisiae* (Fermipan) was purchased from the local supermarket. It was known that yeast is crucial to initiating the fermentation process. These mixtures were split into three separate containers, properly labeled for tracking. The containers were placed in a controlled environment, allowing the fermentation process to begin. Each container had a different fermentation duration: one group fermented for 0 days, another for 5 days, and the last for 10 days. The progress was monitored until the coconut dregs were ready to be fed to broiler chickens.

Feeding of Fermented Coconut Dregs Using Saccharomyces cerevisiae

Fermented coconut dregs using *S. cerevisiae* were incorporated into the diets of broiler chickens to evaluate their effects on growth performance. The control groups (T1, T5, and T9) were fed a basal diet consisting of commercial broiler feed without the inclusion of fermented coconut dregs. The remaining groups were fed the same basal diet supplemented with fermented coconut dregs at levels of 0.3 g (T2, T6, and T10), 0.6g (T3, T7, and T11), and 0.9 g (T4, T8, and T12) in every 10 kg of commercial feed. All diets were prepared on a uniform weight basis and thoroughly mixed to ensure even distribution of the fermented coconut dregs prior to feeding. The birds were fed according to their assigned dietary treatments throughout the experimental period, and clean, fresh drinking water was provided ad libitum.

Care and Management Practices of Broiler Chicken

Procurement of Broiler Chicken

A total of one hundred eighty (180) day-old broiler chicks were procured at La Purita breeding farm in Ipil, Zamboanga Sibugay. Upon their arrival, they were immediately placed in a cleaned and disinfected brooding area to help them recover from travel stress. To ensure consistency and reliability in data collection, all chicks were obtained from the same hatch date. Each chick was subjected to health assessments to confirm that they were disease-free and to reduce the risk of complications during the experimental phase.

Preparation of the Brooding Area

When the chicks entered the brooding cages, all preparations for brooding had been completed to promote the formation of favourable and non-stressful conditions. The brooding area was swept, cleaned, and disinfected before the chicks arrived to ensure that no disease-causing organisms existed there. The brooding area was equipped with red bulbs of electricity that were turned on one hour prior to the chicks' arrival to ensure they maintained the required heat throughout their bodies, warm and comfortable. Clean water was prepared and offered to the chicks upon arrival to provide energy and aid in recovery from stress during transportation. One hour after arrival, a commercial feed starter was introduced. Appropriate ventilation was provided to prevent colds and flu, with extra protection against drafts that could otherwise cause respiratory inflammation. The broiler chicks were kept in the brooding area until they were ten (10) days old, respectively.

Rearing Management

At eleven (11) days old, broiler chickens were transferred to rearing cages to begin the experimental phase. There were thirty-six (36) rearing cages, corresponding to a total of thirty-six (36) treatments (12 treatments multiplied by 3 replications). Each rearing cage housed five (5) broiler chickens, measuring 6.4ft by 12.8ft (81.92 square feet), providing 2.05 square feet per bird, along with extra space for feeders and waterers. The cage dimensions were designed to ensure adequate ventilation and prevent overcrowding, thereby minimizing stress and decreasing the risk of disease. To maintain a healthy environment, the rearing cages were cleaned daily. The birds were kept under these conditions for a duration of twenty (20) days.

Lighting Management

Proper lighting management was established to enhance the health and development of the birds. In the brooding stage, twelve 50-watt lights were used. Throughout the rearing period, each cage was equipped with a single 25-watt light. To ensure the chicks remained warm and comfortable while maintaining constant access to feed and water, the brooding phase provided continuous lighting, promoting their early growth. During the experimental phase, researchers maintained an 8-hour nighttime lighting schedule until the study concluded. The lighting system was regularly monitored to ensure consistent illumination and prevent stress that could negatively affect the birds.

Feeding Management

Ad libitum feeding was introduced to promote optimal growth in the birds throughout the study. During the brooding phase, the birds were provided with a commercial starter ration. As they moved into the rearing phase, the starter feed was gradually replaced with fermented feeds according to the designated treatments, facilitating a smooth transition and reducing the likelihood of adverse effects. To avoid spoilage, feeders were cleaned promptly and regularly, and feed was monitored to ensure adequate intake and preserve feed quality. Proper feeding management was strictly observed throughout the study to maintain feed quality, support efficient nutrient utilization, and ensure the reliability and accuracy of the experimental results.

Water management

Water was kept clean, fresh, and readily available throughout the study to ensure the broiler chicks stayed properly hydrated at all times. Waterers were cleaned and disinfected daily to uphold hygiene standards and prevent the potential spread of diseases and harmful microorganisms. Additional supplements, including vitamins and antibiotics, were also provided as part of the health management program to foster growth, boost immunity, and minimize the risk of infections among the birds. Fresh drinking water was consistently supplied from the brooding phase through to the end of the rearing period to reduce stress, sustain normal body functions, enhance feed intake, and guarantee proper growth and development of the broiler chickens. Proper water management has been consistently practiced, as water is crucial for digestion, nutrient assimilation, temperature regulation, and the general health of poultry.

Disease Prevention, Treatments, and Control

To prevent disease outbreaks, precautions were established, and strict biosecurity measures were implemented. Some of these measures included wearing clean clothes, washing boots and other equipment, and avoiding access to brood and rearing areas. Additional actions included disinfecting gear and footwear while maintaining a tidy environment. Feed and water containers were cleaned and sanitized daily to prevent contamination. Moreover, the chicks were vaccinated with standard immunizations recommended for their age to strengthen their immunity and protect them against common poultry diseases.

Table 2. Vaccination and Vitamin Supplementation Program Schedule.

Age	Vaccine	Mode of application
Day 11	Gumburo GM97	Intra ocular
Day 17	Vitmin Pro	Via drinking water
Day 21	RDC La Sota	Via drinking water
Day 24	Vitmin Pro	Via drinking water
Day 30	Vitmin Pro	Via drinking water

To prevent infections caused by internal parasites, deworming was performed, and routine examinations were conducted to monitor for signs of severe illness. Chicks affected by pathogens were immediately removed and treated based on the pathogen present to minimize the spread of disease.

<u>Data Gathered</u>

The study's data collected encompassed the growth performance, feed utilization, carcass quality, and economic return analysis.

A. Growth performance of broiler chickens fed with fermented coconut dregs using *S. cerevisiae*. Parameters including initial and final body weight, weight gain, feed consumption, feed conversion ratio, and feed conversion efficiency were monitored to evaluate the effectiveness of the different feed treatments on the broiler chickens' growth performance.

1. Initial Body Weight (g). This involved weighing each bird at the start of the experiment to determine their baseline weight before the feeding trial.
2. Final Body Weight (g). This was done by weighing the birds at the end of the experiment to find their total growth over the study period.
3. Weight Gain (g). This was obtained by subtracting the starting body weight from

the final body weight. It shows the total amount of body mass gained by the birds during the experiment.

$$\text{Weight Gain} = \text{Final Body Weight} - \text{Initial Body Weight}$$

B. Feed utilization of broiler chickens fed with fermented coconut dregs using *S. cerevisiae*. This includes evaluating feed consumption, feed conversion ratio (FCR), and feed conversion efficiency (FCE).

1. Feed Consumption (g). We measured the total feed each bird consumed throughout the study. We tracked feed intake daily and added it up for the entire experiment to assess the birds' feed consumption for each treatment.
2. Feed Conversion Ratio (FCR). This was found by dividing the total feed intake by the total weight gain. A lower FCR shows better feed efficiency. This means the birds needed less feed to gain one unit of weight.

$$\text{Feed Conversion Ratio (FCR)} = \frac{\text{Feed consumption (g)}}{\text{Weight gain (g)}}$$

3. Feed Conversion Efficiency. This was found to be the opposite of the Feed Conversion Ratio (FCR). It indicates how well the birds convert feed into body weight. A higher FCE means better use of feed.

$$\text{Feed Conversion Efficiency (FCE)} = \frac{\text{Weight gain (g)}}{\text{Feed consumption (g)}}$$

C. Carcass traits of Broiler chickens fed with fermented coconut dregs using *S. cerevisiae* were evaluated by looking at carcass weight and dressing percentage. These parameters helped assess how different feed treatments affected overall carcass quality.

1. Carcass Weight (g). This involved weighing the dressed carcasses of broiler chickens after slaughter.
2. Dressing Percentage (%).This shows the ratio of the carcass weight to the live body weight of the chickens. It was calculated using this formula:

$$\text{Dressing Percentage} = \frac{\text{Carcass weight}}{\text{Live weight}} \times 100\%$$

D. The economic analysis aimed to evaluate the cost-effectiveness and profitability of feeding strategies for broiler chickens. The parameters included calculations for feeding cost, total production cost, gross sales, net income, and ROI.

1. Feed Cost (₱).The total feed cost was calculated by adding up the expenses for feed from the start to the end of the experiment.
2. Total Production Cost (₱).This was calculated by adding up all the expenses related to production. This includes housing, feed, chicks, healthcare, labor, and other operational costs.
3. Gross Sales (₱). This was calculated using the total income from selling the chickens at a regular market price of ₱250 per kilogram (carcass weight).
4. Net Income (₱). The net income was derived by subtracting the total production cost from the gross sales, as shown in the formula:

$$\text{Net Income} = \text{Gross Sales} - \text{Total Production Cost}$$

5. Return on Investment (ROI, %). ROI measures how profitable the production system is by comparing net income to total production costs. It was calculated using the following formula:

$$\text{Return on Investment (ROI) Statistical Analysis} = \frac{\text{Net income}}{\text{Cost Production}} \times 100$$

Statistical Analysis

Descriptive statistics, including the mean and standard deviation, summarized the growth performance, feed use, carcass traits, and economic returns of broiler chickens fed fermented coconut dregs with *S. cerevisiae*. A two-way analysis of variance (ANOVA) within a factorial Completely Randomized Design (CRD) was conducted to evaluate the main effects of fermentation duration and coconut dreg inclusion level. This analysis also looked at their interaction on initial body weight, final body weight, weight gain, and feed intake, feed conversion ratio (FCR), feed conversion efficiency (FCE), carcass weight, carcass percentage, dressing percentage, and economic factors like feed cost, total production cost, revenue, net income, and return on investment (ROI).

RESULTS AND DISCUSSION

Growth performance

The growth performance of broiler chickens fed fermented coconut dregs (CD) with *Saccharomyces cerevisiae* is presented in Table 3. Results showed that fermentation duration (Factor A) had no significant difference (p > 0.05) on final weight and weight gain, although a significant difference was observed in initial weight (p = 0.08). Numerically, broilers fed CD fermented for 10 days (A3) exhibited the highest final weight (1631.25 g) and weight gain (1335.93 g), followed by those fed for 5 days (A2) and 0 days (A1).

Table 3. Growth Performance of broiler chicken *(Gallus domesticus)* fed with fermented coconut dregs using Yeast (*Saccharomyces cerevisiae)*

TREATMENTS	IW(g)	FW(g)	W(g)
Feed Fermentation			
A_1 - 0 days	268.82±12.69114	1584.90±80.68076	1316.08±77.03310
A_2 - 5 days	283.15±28.79850	1597.92±126.26188	1314.77±106.79032
A_3 - 10 days	295.32±17.32858	1631.25±71.62550	1335.93±76.67819
F-test	.008*	.450^{ns}	.792^{ns}
Different Feed Mixture			
B_1 - 0% CD w/ Yeast	273.16±11.43013	1608.73±105.38359	1335.58±95.28213
B_2 - 3% CD w/ Yeast	293.29±21.86003	1676.38±59.65597	1383.09±57.33996
B_3 - 6% CD w/ Yeast	277.76±28.88439	1560.33±115.23168	1282.58±101.99262
B_4 - 9% CD w/ Yeast	285.51±24.39408	1573.31±50.74693	1287.80±45.90959
F-test	.139^{ns}	.054^{ns}	.063^{ns}
A x B	.155^{ns}	.714^{ns}	.764^{ns}

^{a,b,c,d} Means within a column with different superscripts differ significantly. F-test = probability value of treatment effects (*p>0.05; ** p<0.01; *** p<0.001; NS: Not significant). values are presented as mean ± standard deviation. IW = Initial Weight; FW = Final Weight; WG = Weight Gain; CD = Coconut Dregs; FCD = Fermented Coconut Dregs; A1 = 0 days fermentation; A2 = 5 days fermentation; A3 = 10 days fermentation; B1 = 0% FCD; B2 =3%FCD; B3=6%FCD; B4=9%FCD; AxB = interaction effect between Feed fermentation duration and Different feed mixture levels.

For feed mixture levels (Factor B), no significant differences (p > 0.05) were observed across all parameters. However, birds fed 3% CD with yeast (B2) showed the highest final weight (1676.38 g) and weight gain (1383.09 g), while higher inclusion levels

(6% and 9%) resulted in relatively lower performance. The interaction effect (A × B) was also not significant ($p > 0.05$), indicating that the combined effects of fermentation duration and feed mixture did not influence growth performance.

The lack of major differences indicates that fermented coconut dregs can be added to broiler diets without harming growth, regardless of fermentation duration or inclusion level within the tested range.

These findings are partially consistent with the study of (Hafsah et al. 2020), who reported that fermentation of coconut dregs using *Saccharomyces cerevisiae* improved nutrient composition by reducing crude fiber and increasing protein content, leading to improved growth performance in broilers. Specifically, they found that a 5-day fermentation period resulted in greater body weight gain than shorter durations. In contrast, the present study showed no statistically significant improvement across fermentation periods, although a numerical increase was observed at 10 days.

The higher numerical performance observed at 3% CD inclusion aligns with findings that moderate inclusion levels of alternative feed ingredients tend to optimize growth. In contrast, excessive inclusion may reduce performance due to nutrient imbalance or residual fiber content. This is supported by related work showing that while fermented coconut dregs improve feed quality, excessive inclusion may not proportionally enhance growth performance (Ortega et al, 2025).

Feed utilization

The feed utilization of broiler chickens (*Gallus domesticus*) fed fermented coconut dregs (CD). The use of *Saccharomyces cerevisiae* is presented in Table 4. Results showed that fermentation duration (A) did not differ significantly (P>0.05) in feed consumed per bird, feed conversion ratio (FCR), and feed conversion efficiency (FCE). Numerically, birds fed CD fermented for 5 days (A2) exhibited the highest feed intake (2257.67 g) but also had the poorest FCR (1.73) and lower FCE (58.35). In contrast, birds under 10-day fermentation (A3) showed the best FCR (1.65) and highest FCE (60.63), indicating relatively better feed efficiency despite comparable feed intake.

Table 4. Feed utilization of broiler chicken *(Gallus domesticus)* fed with fermented coconut dregs using yeast (*Saccharomyces cerevisiae)*

TREATMENTS	FC/BIRD	FCR	FCE
Feed Fermentation			
A_1 - 0 days	2202.78±125.27882	1.68±.09020	59.82±3.07164
A_2 - 5 days	2257.67±82.11302	1.73±.18288	58.35±5.70516
A_3 - 10 days	2206.93±131.16902	1.65±.09365	60.63±3.46717
F-test	.350^{ns}	.382^{ns}	.447^{ns}
Different Feed Mixture			
B_1 - 0% CD w/ Yeast	2243.02±87.87903	1.69±.13473	59.62±4.67722
B_2 - 3% CD w/ Yeast	2279.91±130.99829	1.65±.09311	60.79±3.44331
B_3 - 6% CD w/ Yeast	2176.87±97.44650	1.71±.17304	59.01±5.02587
B_4 - 9% CD w/ Yeast	2190.04±123.37584	1.70±.12070	58.98±4.10450
F-test	.139^{ns}	.782^{ns}	.799^{ns}
A x B	.90^{ns}	.532^{ns}	.463^{ns}

$^{a, b, c, d}$ Means within a column with different superscripts differ significantly. F-test = probability value of treatment effects (p<0.05; p<0.01; p<0.001; NS: Not significant). values are presented as mean ± standard deviation. FC-Feed Consumed; FCR= Feed Conversion Ratio; FCE= Feed Conversion Efficiency; CD= Coconut Dregs; FCD= Fermented Coconut Dregs; A1 = 0 days fermentation; A2 = 5 days fermentation; A3 = 10 days fermentation; B1 = 0% FCD; B2 =3%FCD; B3=6%FCD; B4=9%FCD; AxB = interaction effect between Feed fermentation duration and Different feed mixture levels

Similarly, different feed mixture levels (B) showed no significant differences (P>0.05) across all parameters. However, numerical trends indicated that 3% CD with yeast (B2) resulted in the most favorable FCR (1.65) and highest FCE (60.79), suggesting improved feed utilization at moderate inclusion levels. Higher inclusion levels (6% and 9%) tended to slightly reduce performance. Furthermore, the interaction effect (A × B) was no significant (P > 0.05), indicating that the combination of fermentation duration and CD inclusion level did not affect feed utilization.

The lack of significant differences across treatments suggests that fermented coconut dregs can be incorporated into broiler diets without adversely affecting feed efficiency. This finding reported that fermentation of coconut dregs using *Saccharomyces cerevisiae* did not negatively affect feed intake and, in some cases, improved nutrient utilization due to reduced crude fiber and enhanced protein content (Nguru et al., 2024). The improved FCR observed at moderate fermentation periods and inclusion levels in the present study aligns with their findings that fermentation enhances digestibility and nutrient availability.

However, the absence of statistically significant improvements contrasts with reports that optimal fermentation (e.g., 5 days) can significantly increase body weight gain and digestibility in broilers. This discrepancy may be attributed to differences in experimental conditions, such as inclusion rates, supplementation, or nutrient composition of the diets. Additionally, other studies have shown that while feed additives may improve growth performance, they do not always significantly affect FCR, supporting the present findings of non-significant differences.

Carcass traits

The carcass traits of broiler chickens fed fermented coconut dregs (CD) using *Saccharomyces cerevisiae* are presented in Table 5. For feed fermentation duration, carcass weight ranged from 1264.78 g (10 days) to 1284.90 g (0 days), while dressing percentage ranged from 77.56% to 81.03%. Statistical analysis indicated no significant differences (p

> 0.05) between treatments for both carcass weight (F = 0.926) and dressing percentage (F = 0.365). Similarly, varying levels of CD inclusion resulted in carcass weights ranging from 1220.11 g to 1376.38 g and dressing percentages from 75.93% to 82.08%, with no significant differences observed (p > 0.05). The interaction between fermentation duration and feed mixture (A x B) was likewise not significant for both parameters.

Table 5. Carcass traits of broiler chicken *(Gallus domesticus)* fed with fermented coconut dregs using *Saccharomyces cerevisiae.*

TREATMENTS	CARCASS WEIGHT	DRESSING %
Feed Fermentation		
A_1 - 0 days	1284.90±80.68076	81.03±.93619
A_2 - 5 days	1267.87±174.36988	79.16±7.11708
A_3 - 10 days	1264.78±158.36713	77.56±9.30953
F-test	$.926^{ns}$	$.365^{ns}$
Different Feed Mixture		
B_1 - 0% CD w/ Yeast	1220.11±178.43243	75.93±10.40005
B_2 - 3% CD w/ Yeast	1376.38±59.65597	82.08±.63786
B_3 - 6% CD w/ Yeast	1260.33±115.23168	80.67±1.61149
B_4 - 9% CD w/ Yeast	1233.24±140.68368	78.32±7.94922
F-test	$.083^{ns}$	$.154^{ns}$
A x B	$.450^{ns}$	$.057^{ns}$

[a, b, c, d] Means within a column with different superscripts differ significantly. F-test = probability value of treatment effects (p<0.05; p<0.01; p<0.001; NS: Not significant). values are presented as mean ± standard deviation; FCD = Fermented Coconut Dregs; A1 = 0 days fermentation; A2 = 5 days fermentation; A3 = 10 days fermentation; B1 = 0% FCD; B2 =3%FCD; B3=6%FCD; B4=9%FCD; AxB = interaction effect between Feed fermentation duration and Different feed mixture levels

The lack of significant differences in carcass weight and dressing percentage across fermentation durations suggests that extending fermentation up to 10 days did not markedly influence carcass yield. This finding is partially consistent with (Palupi, 2023), who reported that fermentation duration influenced growth performance but did not always translate into significant differences in carcass traits.

In terms of feed mixture, although numerically higher carcass weight and dressing percentage were observed in broilers fed 3% CD with yeast (B2), the differences were not statistically significant. This result aligns with findings by (Azhari, 2022), where inclusion of fermented coconut dregs improved nutrient digestibility and performance but produced variable effects on carcass percentage. The absence of significant differences may be attributed to the relatively low inclusion levels of CD, which may not have been sufficient to elicit pronounced changes in carcass traits.

Furthermore, the non-significant interaction effect (A × B) indicates that the combined influence of fermentation duration and coconut dregs inclusion level did not have a synergistic effect on carcass characteristics. This suggests that both factors independently exert minimal impact on carcass yield under the conditions of the study.

Economic performance

The economic performance of broiler chickens fed fermented coconut dregs (CD) using *Saccharomyces cerevisiae* is presented in Table 6. Results showed that feed fermentation duration had no significant effect ($p > 0.05$) on total feed cost, total production cost, revenue, net income, and return on investment (ROI), with F-test values of 0.350, 0.350, 0.926, 0.884, and 0.875, respectively. Numerically, broilers under A1 (0 days fermentation) recorded the highest revenue (₱1413.39), net income (₱343.01), and ROI (32.01%), followed by A3 (10 days) and A2 (5 days). However, these differences were not statistically significant.

For different feed mixtures, no significant differences ($p > 0.05$) were also observed across all economic parameters. Despite this, treatment B2 (3% CD with yeast) consistently showed the highest revenue (₱1514.02), net income (₱429.36), and ROI (39.61%), while

B1 (0% CD) recorded the lowest values. The interaction effect (A × B) was likewise not significant for all economic indicators, indicating that the combined

The effects of fermentation duration and CD inclusion level did not significantly influence profitability.

Table 5. Economic performance of broiler chicken *(Gallus domesticus)* fed with fermented Coconut dregs using *Saccharomyces cerevisiae.*

TREATMENTS	FC (₱)	PC (₱)	R (₱)	NI (₱)	ROI (%)
Feed Fermentation					
A_1 - 0 days	407.74 ±.00000	1070.38 ±23.18871	1413.39 ±88.74884	343.01 ±77.62197	32.01 ±6.93339
A_2 - 5 days	417.89 ±.00000	1080.54 ±15.19836	1394.65 ±191.80686	314.12 ±198.39696	29.19 ±18.39984
A_3 - 10 days	408.50 ±.00000	1071.15 ±24.27852	1391.26 ±174.20385	320.11 ±173.76446	29.92 ±16.10993
F-test	.350^{ns}	.350^{ns}	.926^{ns}	.884^{ns}	.875^{ns}
Different FCD					
B_1 - 0% CD w/ Yeast	415.18 ±.00000	1077.83 ±16.26659	1342.12 ±196.27567	264.30 ±197.27877	24.55 ±18.25994
B_2 - 3% CD w/ Yeast	422.01 ±.00000	1084.65 ±24.24656	1514.02 ±65.62156	429.36 ±61.86163	39.61 ±5.79686
B_3 - 6% CD w/ Yeast	402.94 ±.00000	1065.58 ±18.03768	1386.37 ±126.75485	320.79 ±128.99250	30.15 ±12.04689
B_4 - 9% CD w/ Yeast	405.38 ±.00000	1068.02 ±22.83629	1356.57 ±154.75205	288.55 ±165.30448	27.18 ±15.39951
F-test	.139^{ns}	.139^{ns}	.96^{ns}	.123^{ns}	.137^{ns}
A x B	.90^{ns}	.90^{ns}	.450^{ns}	.383^{ns}	.357^{ns}

$^{a, b, c, d}$ Means within a column with different superscripts differ significantly. F-test = probability value of treatment effects (p<0.05; p<0.01; p<0.001; NS: Not significant);j values are presented as mean ± standard deviation. FC-Feed Consumed; FC= Feed Cost; PC=Production Cost; R=Revenue; NI=Net Income; ROI= Return on Investment; CD=Coconut Dregs; FCD=Fermented Coconut Dregs; A1 = 0 days fermentation; A2 = 5 days fermentation; A3 = 10 days fermentation; B1 = 0% FCD; B2 =3%FCD; B3=6%FCD; B4=9%FCD; AxB = interaction effect between Feed fermentation duration and Different feed mixture levels.

The absence of significant differences in economic performance across fermentation durations suggests that extending fermentation did not substantially reduce production costs or improve profitability. This finding agrees with the study of (Fualefac, 2025), who reported that while fermented feed ingredients may enhance nutrient utilization, their effect on economic returns are not always statistically significant due to relatively stable input costs and marginal differences in growth performance. Similarly, noted that fermentation processes can increase feed preparation costs, potentially offsetting potential economic gains if productivity improvements are minimal (Zhang, 2026).

In terms of feed mixture, the higher numerical profit and ROI observed in B2 (3% CD inclusion) suggest a potential economic advantage at moderate inclusion levels. This report states that incorporating coconut by-products in broiler diets can reduce feed costs and improve profitability when used at optimal levels. However, the lack of statistical significance in the present study suggests that such benefits may not be sufficiently pronounced under the conditions examined.

In contrast, higher inclusion levels, such as 9% CD, showed reduced profitability, which may be attributed to lower nutritional value and higher crude fiber content associated with excessive inclusion of coconut dregs. High fiber levels may reduce nutrient digestibility, feed efficiency, and nutrient absorption in broiler chickens, resulting in lower growth performance and reduced economic returns (Walugembe et al, 2025). Poultry birds have a limited ability to digest fibrous feed ingredients due to the absence of fiber-degrading enzymes in their digestive system. According to (Vivares, 2025), excessive inclusion of fibrous agricultural by-products in poultry diets can negatively affect feed efficiency and profitability because of reduced nutrient utilization and energy availability.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the study, the following conclusions were drawn;

1. Growth performance of broiler chickens, as measured by initial weight, final weight, and weight gain, was not significantly affected ($p > 0.05$) by fermentation duration or varying levels of fermented coconut dregs (CD) using *Saccharomyces cerevisiae*, indicating that these dietary treatments did not influence overall growth; however, initial weight showed a significant difference among treatments ($p = 0.08$), while the interaction between factors was not significant.

2. The feed utilization for broiler chickens, in terms of feed consumption, feed conversion ratio (FCR), and feed conversion efficiency (FCE), was not significantly affected ($p > 0.05$) by either fermentation duration or different levels of fermented coconut dregs (CD) using *Saccharomyces cerevisiae*. No significant interaction was observed between these factors.

3. The carcass characteristics of broiler chickens, measured by carcass weight and dressing percentage, were not significantly affected ($p > 0.05$) by fermentation duration or by varying levels of fermented coconut dregs (CD) using *Saccharomyces cerevisiae*, and no significant interaction between these factors was observed.

4. The economic returns of broiler chickens, evaluated through total feed expense, total production expense, revenue, net profit, and return on investment (ROI), exhibited no significant impact ($p > 0.05$) from the duration of fermentation or the levels of CD included. Nevertheless, moderate inclusion levels demonstrated more favorable numerical returns, while higher inclusion levels led to diminished profitability.

5. There was no significant interaction between fermentation duration (Factor A) and different levels of coconut dregs inclusion (Factor B) on the growth performance, feed utilization, carcass traits, and economic performance of broiler chickens ($p > 0.05$), indicating that their combined effects did not significantly influence the measured parameters.

Based on the findings and conclusions of the study, the following recommendations are drawn;

1. Fermented coconut dregs (CD) produced with *Saccharomyces cerevisiae* may be included in broiler diets as an alternative feed ingredient, as they did not significantly affect growth performance, feed utilization, carcass traits, or economic performance ($p > 0.05$). However, future studies should improve the experimental design by increasing replication, refining fermentation duration and inclusion levels, and incorporating digestibility-enhancing strategies to obtain more reliable and statistically significant results. Furthermore, the data generated in this study should be used as a baseline for future feed formulation and optimization studies to determine the most efficient inclusion level of fermented coconut dregs to improve broiler productivity and profitability.

2. A 3% inclusion level of fermented coconut dregs, combined with a 10-day fermentation period, is recommended, as this treatment consistently showed better performance in growth, feed efficiency, carcass traits, and economic returns.

3. Inclusion levels above 6%-9% are discouraged because they have been linked to

reduced growth performance, feed efficiency, carcass characteristics, and financial returns compared with lower inclusion rates.

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APENDIX A

ANOVA Tables

Table 7.1 ANOVA of the Initial weight on Production and Economic Performance of Broiler chicken *(Gallus domesticus)* fed with fermented coconut dregs using *S. cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	4222.889	2	2111.444	6.017	.008
Factor B	2117.470	3	705.823	2.011	.139
Factor A * Factor B	3658.507	6	609.751	1.738	.155
Error	8421.707	24	350.904		
Total	2889976.760	36			

a. R Squared = .543 (Adjusted R Squared = .333)

Table 7.2 ANOVA of the Final weight on Production and Economic Performance of Broiler chicken fed with fermented coconut dregs using *Saccharomyces cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	13715.469	2	6857.734	.825	.450
Factor B	72968.711	3	24322.904	2.924	.054
Factor A * Factor B	30812.336	6	5135.389	.617	.714
Error	199617.200	24	8317.383		
Total	93018065.200	36			

a. R Squared = .371 (Adjusted R Squared = .082)

Table 7.3 ANOVA of the Weekly Weight Gain on Production and Economic Performance of Broiler chicken *(Gallus domesticus)* fed with fermented coconut dregs using *Saccharomyces cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	375.132	2	187.566	.236	.792
Factor B	6639.211	3	2213.070	2.781	.063
Factor A * Factor B	2635.864	6	439.311	.552	.764
Error	19101.661	24	795.903		
Total	7022246.713	36			

a. R Squared = .336 (Adjusted R Squared = .031)

APENDIX A (*continued*)

ANOVA Tables

Table 7.4 ANOVA of the Weight gain on Production and Economic Performance of Broiler chicken *(Gallus domesticus)* fed with fermented coconut dregs using *S. cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	3375.136	2	1687.568	.236	.792
Factor B	59757.186	3	19919.062	2.781	.063
Factor A * Factor B	23724.304	6	3954.051	.552	.764
Error	171914.480	24	7163.103		
Total	63200251.160	36			

a. R Squared = .336 (Adjusted R Squared = .031)

Table 7.5 ANOVA of the Feed Consumption on Production and Economic Performance of Broiler chicken fed with fermented coconut dregs using *S. cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	22413.096	2	11206.548	1.097	.350
Factor B	61676.599	3	20558.866	2.013	.139
Factor A * Factor B	129274.318	6	21545.720	2.110	.090
Error	245118.133	24	10213.256		
Total	178274484.200	36			

a. R Squared = .465 (Adjusted R Squared = .220)

Table 7.6 ANOVA of the Feed Conversion Ratio on Production and Economic Performance of Broiler chicken fed with fermented coconut dregs using *S. cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	.037	2	.018	1.002	.382
Factor B	.020	3	.007	.361	.782
Factor A * Factor B	.095	6	.016	.869	.532
Error	.439	24	.018		
Total	102.904	36			

a. R Squared = .257 (Adjusted R Squared = -.084)

APENDIX A (*continued*)

ANOVA Tables

Table 7.7 ANOVA of the Feed Conversion Efficiency on Production and Economic Performance of Broiler chicken fed with fermented coconut dregs using *S. cere visiae*

Source	SS	DF	MS	F	P-value
Factor A	32.069	2	16.035	.833	.447
Factor B	19.412	3	6.471	.336	.799
Factor A * Factor B	112.621	6	18.770	.975	.463
Error	462.023	24	19.251		
Total	128501.501	36			

a. R Squared = .262 (Adjusted R Squared = -.076)

Table 7.8 ANOVA of the Carcass Percentage on Production and Economic Performance of Broiler chicken *(Gallus domesticus)* fed with fermented coconut dregs using *S. cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	2817.287	2	1408.643	.077	.926
Factor B	137017.923	3	45672.641	2.513	.083
Factor A * Factor B	108659.433	6	18109.906	.996	.450
Error	436260.907	24	18177.538		
Total	58979507.560	36			

a. R Squared = .363 (Adjusted R Squared = .071)

Table 7.9 ANOVA of the Dressing Percentage on Production and Economic Performance of Broiler chicken *(Gallus domesticus)* fed with fermented coconut dregs using *S. cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	72.288	2	36.144	1.052	.365
Factor B	197.611	3	65.870	1.917	.154
Factor A * Factor B	497.895	6	82.983	2.415	.057
Error	824.656	24	34.361		
Total	227680.020	36			

a. R Squared = .482 (Adjusted R Squared = .245)

APENDIX A (*continued*)

ANOVA Tables

Table 7.10 ANOVA of the Feed Cost on Production and Economic Performance of Broiler Chicken fed with fermented coconut dregs using *Saccharomyces cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	.000	2	.000	-	-
Factor B	.000	3	.000	-	-
Factor A * Factor B	.000	6	.000	-	-
Error	.000	24	.000	-	-
Total	49337.294	36			

a. R Squared = . (Adjusted R Squared = .)

Table 7.11 ANOVA of the Total Feed Cost on Production and Economic Performance of Broiler chicken with fermented coconut dregs using *S. cerevisiae.*

Source	SS	DF	MS	F	P-value
Factor A	767.686	2	383.843	1.097	.350
Factor B	2112.933	3	704.311	2.013	.139
Factor A * Factor B	4429.642	6	738.274	2.110	.090
Error	8398.344	24	349.931		
Total	6108048.943	36			

a. R Squared = .465 (Adjusted R Squared = .220)

Table 7.12 ANOVA of the Total Feed Consumed on Production and Economic Performance of Broiler chicken fed with fermented coconut dregs using *S. cere visiae.*

Source	SS	DF	MS	F	P-value
Factor A	.558	2	.279	1.092	.352
Factor B	1.537	3	.512	2.008	.140
Factor A * Factor B	3.231	6	.538	2.110	.090
Error	6.126	24	.255		
Total	4456.563	36			

a.R Squared = .465 (Adjusted R Squared = .220)

APENDIX A (*continued*)

ANOVA Tables

Table 7.13 ANOVA of the Total Production Cost on Production and Economic Performance of Broiler Chicken fed with fermented coconut dregs using *S.cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	768.135	2	384.067	1.098	.350
Factor B	2113.004	3	704.335	2.013	.139
Factor A * Factor B	4428.920	6	738.153	2.110	.090
Error	8397.759	24	349.907		
Total	41542454.834	36			

a.R Squared = .465 (Adjusted R Squared = .220)

Table 7.14 ANOVA of the Revenue on Production and Economic Performance of Broiler chicken fed with fermented coconut dregs using *S. cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	3408.917	2	1704.458	.077	.926
FactorB	165791.687	3	55263.896	2.513	.083
Factor A * Factor B	131477.914	6	21912.986	.996	.450
Error	527875.697	24	21994.821		
Total	71365204.148	36			

a. R Squared = .363 (Adjusted R Squared = .071)

Table 7.15 ANOVA of the Net Income on Production and Economic Performance of Broiler chicken fed with fermented coconut dregs using *S. cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	5580.986	2	2790.493	.124	.884
Factor B	143284.414	3	47761.471	2.130	.123
Factor A * FactorB	150064.440	6	25010.740	1.116	.383
Error	538037.859	24	22418.244		
Total	4656979.314	36			

a. R Squared = .357 (Adjusted R Squared = .063

APENDIX A (*continued*)

ANOVA Tables

Table 7.16 ANOVA of the Return on Investment on Production and Economic Perfor mance of Broiler Chicken *(Gallus domesticus)* fed with fermented coconut dregs using *S. cerevisiae*

Source	SS	DF	MS	F	P-value
Factor A	51.413	2	25.706	.134	.875
Factor B	1164.719	3	388.240	2.025	.137
Factor A * Facto r B	1341.576	6	223.596	1.166	.357
Error	4601.421	24	191.726		
Total	40365.258	36			

a. R Squared = .357 (Adjusted R Squared = .063)

APPENDIX B

Data Tables

Table 8. Data on the Growth Performance of Broiler Chicken Fed with Fermented Coconut Dregs using yeast (*Saccharomyces cerevesiae)*

Days of Fermentation	Different Feed mixtures	Initial Weight	Final Weight	Weight Gain
1	0	273.40	1568.20	1294.80
1	0	288.60	1740.60	1452.00
1	0	264.80	1484.40	1219.60
1	3	262.60	1619.20	1356.60
1	3	264.20	1601.60	1337.40
1	3	277.00	1711.80	1434.80
1	6	259.40	1577.00	1317.60
1	6	261.00	1633.40	1372.40
1	6	289.00	1523.80	1234.80
1	9	280.00	1526.60	1246.60
1	9	249.20	1530.40	1281.20
1	9	256.60	1501.80	1245.20
2	0	255.80	1536.20	1280.40
2	0	262.40	1476.60	1214.20
2	0	279.00	1665.60	1386.60
2	3	294.80	1699.20	1404.40
2	3	303.40	1695.80	1392.40
2	3	320.00	1752.00	1432.00
2	6	306.80	1689.60	1382.80
2	6	228.40	1287.40	1059.00
2	6	256.00	1622.80	1366.80
2	9	311.20	1596.40	1285.20
2	9	269.40	1610.80	1341.40
2	9	310.60	1542.60	1232.00
3	0	289.80	1750.00	1460.20
3	0	270.40	1566.6	1296.20
3	0	274.20	1690.40	1416.20
3	3	312.60	1644.00	1331.40
3	3	288.20	1754.80	1466.60
3	6	294.80	1616.60	1321.80
3	6	283.60	1528.80	1245.20
3	9	288.40	1587.20	1298.80
3	9	317.40	1604.60	1287.20
3	9	286.80	1659.40	1372.60

APPENDIX C

Data Tables

Table 9. Data on the Feed Utilization of Broiler Chicken Fed with Fermented Coconut Dregs using yeast (*Saccharomyces cerevesiae*).

Days of Fermentation	Different Feed mixtures	Feed Consumption	FCR	FCE
1	0	2054.40	1.59	63.03
1	0	2370.60	1.63	61.25
1	0	2321.60	1.90	52.53
1	3	2378.60	1.75	57.03
1	3	2255.80	1.69	59.29
1	3	2244.00	1.56	63.94
1	6	2211.20	1.68	59.59
1	6	2284.80	1.66	60.07
1	6	2112.20	1.71	58.46
1	9	2095.60	1.68	59.49
1	9	2028.40	1.58	63.16
1	9	2076.20	1.67	59.97
2	0	2230.60	1.74	57.40
2	0	2259.60	1.86	53.74
2	0	2220.00	1.60	62.46
2	3	2112.80	1.50	66.47
2	3	2173.60	1.56	64.06
2	3	2400.60	1.68	59.65
2	6	2207.80	1.60	62.63
2	6	2274.80	2.15	46.55
2	6	2253.40	1.65	60.66
2	9	2332.40	1.81	55.10
2	9	2246.20	1.67	59.72
2	9	2380.20	1.93	51.76
3	0	2220.80	1.52	65.75
3	0	2286.60	1.76	56.69
3	0	2223.00	1.57	63.71
3	3	2375.00	1.78	56.06
3	3	2466.40	1.68	59.46
3	3	2112.40	1.63	61.17
3	6	2154.60	1.73	57.68
3	6	2110.00	1.60	62.64
3	6	1983.00	1.59	62.79
3	9	2215.00	1.71	58.64
3	9	2247.60	1.75	57.27
3	9	2088.80	1.52	65.71

APPENDIX D

Data Tables

Table 10. Data on the Carcass Traits of Broiler Chicken Fed with Fermented coconut Dregs using yeast (*Saccharomyces cerevesiae)*

Days of Fermentation	Different Feed Mixtures	Carcass Weight	Dressing Percentage
1	0	1268.20	80.87
1	0	1440.60	82.76
1	0	1184.40	79.79
1	3	1319.20	81.47
1	3	1301.60	81.27
1	3	1411.80	82.47
1	6	1277.00	80.98
1	6	1333.40	81.63
1	6	1223.80	80.31
1	9	1226.60	80.35
1	9	1230.40	80.40
1	9	1201.80	80.02
2	0	1236.20	80.47
2	0	1176.60	79.68
2	0	1365.60	81.99
2	3	1399.20	82.34
2	3	1395.80	82.31
2	3	1452.00	82.88
2	6	1389.60	82.24
2	6	987.40	76.70
2	6	1322.80	81.51
2	9	1296.40	81.21
2	9	1310.80	81.38
2	9	882.00	57.18
3	0	1044.20	59.67
3	0	874.80	55.84
3	0	1390.40	82.25
3	3	1344.00	81.75
3	3	1454.80	82.90
3	3	1309.00	81.35
3	6	1263.60	80.81
3	6	1316.60	81.44
3	6	1228.80	80.38
3	9	1287.20	81.10
3	9	1304.60	81.30
3	9	1359.40	81.92

APPENDIX E

Data Tables

Table 11. Data on the Economic Returns of Broiler Chicken Fed with Fermented Co conut dregs using yeast

Days of Fermentation	Different Feed Mixtures	Feed Cost	Production Cost	Revenue	Net Income	ROI
1	0	380.27	1042.91	1395.02	352.11	33.76
1	0	438.80	1101.44	1584.66	483.22	43.87
1	0	429.73	1092.37	1302.84	210.47	19.27
1	3	440.28	1102.92	1451.12	348.20	31.57
1	3	417.55	1080.19	1431.76	351.57	32.55
1	3	415.36	1078.01	1552.98	474.97	44.06
1	6	409.29	1071.94	1404.7	332.76	31.04
1	6	422.92	1085.56	1466.74	381.18	35.11
1	6	390.97	1053.61	1346.18	292.57	27.77
1	9	387.90	1050.54	1349.26	298.72	28.44
1	9	375.46	1038.10	1353.44	315.34	30.38
1	9	384.30	1046.95	1321.98	275.03	26.27
2	0	412.88	1075.53	1359.82	284.29	26.43
2	0	418.25	1080.90	1294.26	213.36	19.74
2	0	410.92	1073.57	1502.16	428.59	39.92
2	3	391.08	1053.72	1539.12	485.40	46.07
2	3	402.33	1064.98	1535.38	470.40	44.17
2	3	444.35	1106.99	1597.2	490.21	44.28
2	6	408.66	1071.31	1528.56	457.25	42.68
2	6	421.07	1083.71	1086.14	2.43	0.22
2	6	417.10	1079.75	1455.08	375.33	34.76
2	9	431.73	1094.37	1426.04	331.67	30.31
2	9	415.77	1078.41	1441.88	363.47	33.70
2	9	440.58	1103.22	970.2	-133.02	12.06
3	0	411.07	1073.71	1148.62	74.91	6.98
3	0	423.25	1085.89	962.28	-123.61	11.38
3	0	411.48	1074.12	1529.44	455.32	42.39
3	3	439.61	1102.26	1478.4	376.14	34.12
3	3	456.53	1119.17	1600.28	481.11	42.99
3	3	391.01	1053.65	1439.9	386.25	36.66
3	6	398.82	1061.46	1389.96	328.50	30.95
3	6	390.56	1053.20	1448.26	395.06	37.51
3	6	367.05	1029.70	1351.68	321.98	31.27
3	9	410.00	1072.64	1415.92	343.28	32.00
3	9	416.03	1078.67	1435.06	356.39	33.04
3	9	386.64	1049.28	1495.34	446.06	42.51

APPENDIX F

Income Statement

Table 12. Overall Income Statement on Production and Economic Performance of Broiler Chicken Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
Operating Expenses				
	Chicks	180	45	8100
	Starter Feeds	2	1970	3940
	Booster	3.5	2015	7052
	Finisher	3	1940	5820
	Dry Yeast	2	150	300
	Vitamins	2	25	50
	Antibiotics	1	70	70
	Dewormer	2	24	48
	Disinfectant	1	25	25
	Coconut Dregs	60	5	300
	Bulb	36	23	828
	Water and Electricity	-	-	3852
	Formulated feeds	400.3	37.02	14,819.10
	Total			
				45,204.10
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				45,473.30
Gross Sales	Dressed Chicken (220/kg)	1.3	180	51,480
Net Income	Gross sales- Total Production cost			6007
				15157.76

APPENDIX G

Income Statement

Table 13. T-1 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 14. T-2 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued*)

Income Statement

Table 15. T-3 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 16. T-4 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 17. T-5 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 18. T-6 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 19. T-7 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 20. T-8 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 21. T-9 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 22. T-10 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 23. T-11 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX G (*continued)*

Income Statement

Table 24. T-12 Income Statement on Growing Broiler Chickens Fed with Fermented Coconut dregs using *Saccharomyces cerevisiae*

Expenses		Items	Qty	Price
OperatingExpenses				
	Chicks	15	45	675
	Starter Feeds	0.16	1970	-
	Booster	0.29	2015	587.66
	Finisher	0.25	1940	-
	Dry Yeast	0.16	150	25
	Vitamins	0.16	25	4.16
	Antibiotics	0.08	70	5.83
	Dewormer	0.16	24	4
	Disinfectant	0.08	25	2
	Coconut Dregs	5	5	25
	Bulb	3	23	69
	Water and Electricity	-	-	321
	Formulated feeds	33.35	37.02	
	Total			
				1719
Capital Expenses				
	Receptable	36	21	756
	Wire	30	40	1200
	Trapal	2	70	140
	Housing	9	964	8672
	Total			
				10,768
Depreciation Cost	10 years			269.2
Total Production Cost				1988
Total PC per Replication				662.6
Gross Sales	Dressed chicken (220/kg)	1.20	15	3960
Net Income	Gross sales- Total PC			1158.8
				933.73

APPENDIX H

Experimental Layout

Appendix Figure 1. Experimental Layout of the Study Using a Completely Randomized Design (CRD) with Three (3) Replications.

APPENDIX I

Nutrient Analysis Report

REGIONAL STANDARDS AND TESTING LABORATORIES
DEPARTMENT OF SCIENCE AND TECHNOLOGY - X
J.V. Seriña Street, Carmen, 9000, Cagayan de Oro City
Republic of the Philippines
CHEMICAL TESTING LABORATORY

PAB ACCREDITED TESTING LABORATORY
PNS ISO/IEC 17025:2017
LA-2018-358B

REPORT OF CHEMICAL ANALYSIS

Customer's Name : *RUFO L. MONTE JR*
Address : *Mausawagon, Calamba, Misamis Occidental*
Submitted by : *Mr. Rufo L. Monte Jr*
Address : *Mausawagon, Calamba, Misamis Occidental*
Date Submitted : 06 May 2025
Request Number : R10-052025-CHE-0222

Sample Description	Parameter(s)	Method Used	Date of Analysis	Result
Feed, coded as Coconut Dregs with Yeast (0 Days) *Sample Prepared on: April 24, 2025* Sample code: CHE-0223	Crude Protein	Method 991.20, OMA AOAC, 21st Edition / Automated Kjeldahl Method	14 – 15 May 2025	12.91 g/100g

The result(s) given in this report were those obtained at the time of examination and refer only to the particular sample submitted and is/are not to be used for advertising or sales promotions. All information written in italics were provided by the customer. RSTL is not responsible for the validity of these information. This report shall not be reproduced except in full without the written approval of the Regional Standards and Testing Laboratories X.

ANALYZED BY/ CERTIFIED BY:

SHENNA GRACE P. ERAN, RCh
Science Research Specialist II
PRC Reg. No. 0013234

CHECKED BY:

MARL ANDRIAN PATRICK H. DALINAO,
Registered Chemical Technician
Project Technical Specialist I
PRC Reg. No. 0007246

ISSUED UNDER THE AUTHORITY OF:

ENGR. DELWIN M. BALANAY, JR.
Officer-In-Charge, RSTL Section

Certificate No.: 2025-0248C
Date Issued: 16 May 2025
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DOST Central URL: [illegible]
DOST-X URL: [illegible]

Appendix Figure 2. Laboratory Test Result on Crude Protein Analysis Coded A1B1 Conducted by the Department of Science and Technology - Regional Standards and Testing Laboratories (DOST-RSTL) Region 10.

APPENDIX I (*continued*)

Nutrient Analysis Report

REGIONAL STANDARDS AND TESTING LABORATORIES
DEPARTMENT OF SCIENCE AND TECHNOLOGY - X
J.V. Seriña Street, Carmen, 9000, Cagayan de Oro City
Republic of the Philippines

CHEMICAL TESTING LABORATORY

PAB ACCREDITED TESTING LABORATORY
PNS ISO/IEC 17025:2017
LA-2019-388B

REPORT OF CHEMICAL ANALYSIS

Customer's Name	:	*RUFO L. MONTE JR*
Address	:	*Mausawagon, Calamba, Misamis Occidental*
Submitted by	:	*Mr. Rufo L. Monte Jr*
Address	:	*Mausawagon, Calamba, Misamis Occidental*
Date Submitted	:	06 May 2025
Request Number	:	R10-052025-CHE-0224

Sample Description	Parameter(s)	Method Used	Date of Analysis	Result
Ferd. coded as Coconut Dregs with Yeast (5 Days) *Sample Prepared on: April 24, 2025* Sample code: CHE-0225	Crude Protein	Method 991.20, OMA AOAC, 21st Edition / Automated Kjeldahl Method	14 – 15 May 2025	6.49 g/100g

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Effectivity Date 11 November 2024

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Email: [illegible]
DOST Central URL: [illegible]
DOST-X URL: [illegible]

Appendix Figure 3. Laboratory Test Result on Crude Protein Analysis Coded A2B1 Conducted by the Department of Science and Technology - Regional Standards and Testing Laboratories (DOST-RSTL) Region 10.

APPENDIX I (*continued*)

Nutrient Analysis Report

REGIONAL STANDARDS AND TESTING LABORATORIES
DEPARTMENT OF SCIENCE AND TECHNOLOGY - X
J.V. Serina Street, Carmen, 9000, Cagayan de Oro City
Republic of the Philippines

CHEMICAL TESTING LABORATORY

PAB ACCREDITED TESTING LABORATORY
PNS ISO/IEC 17025:2017
LA-2016-358B

REPORT OF CHEMICAL ANALYSIS

Customer's Name : *RUFO L. MONTE JR*
Address : *Mausuagon, Calamba, Misamis Occidental*
Submitted by : *Mr. Rufo L. Monte Jr*
Address : *Mausuagon, Calamba, Misamis Occidental*
Date Submitted : 06 May 2025
Request Number : R10-052025-CHE-0225

Sample Description	Parameter(s)	Method Used	Date of Analysis	Result
Feed, coded as Coconut Dregs with Yeast (10 Days) *Sample Prepared on: April 24, 2025* Sample code: CHE-0226	Crude Protein	Method 991.20, OMA AOAC, 21st Edition / Automated Kjeldahl Method	14 – 15 May 2025	6.79 g/100g

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Certificate No.: 2025-0252C
Date Issued: 16 May 2025
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Appendix Figure 4. Laboratory Test Result on Crude Protein Analysis Coded A3B1 Conducted by the Department of Science and Technology - Regional Standards and Testing Laboratories (DOST-RSTL) Region 10.

APPENDIX J

Documentation

Appendix Figure 5. Preparation of the Rearing Cages and the Poultry House for the experiment

APPENDIX J (*continued*)

Documentation

Appendix Figure 6. Disinfecting the brooding area and the rearing cages.

APPENDIX J (*continued*)

Documentation

Appendix Figure 7. Broiler chickens brooding area

APPENDIX J (*continued*)

Documentation

Appendix Figure 8. Mixing and fermentation of coconut dregs as locally available feed ingredients

APPENDIX J (*continued*)

Documentation

Appendix Figure 9. Administering Gumboro vaccine on broiler chicken prior to transfering them to their rearing cage

APPENDIX J (*continued*)

Documentation

Appendix Figure 10. Growth Performance Data Collection on broiler Chickens (Initial Weight and Weekly Weight)

APPENDIX J (*continued*)

Documentation



Appendix Figure 11. Growth Performance Data Collection on Broiler Chickens (Weekly Weight and Final Weight)

APPENDIX J (*continued*)

Documentation

Appendix Figure 12. Photos on the Fermented Coconut dregs Used in the experiment

APPENDIX J (*continued*)

Documentation

Appendix Figure 13. Dressed chicken and data collection on carcass weight and dressing percentage of Broiler chicken

APPENDIX K

Turn It In Results

Hannah Jean A. Eslit.odt

Misamis University

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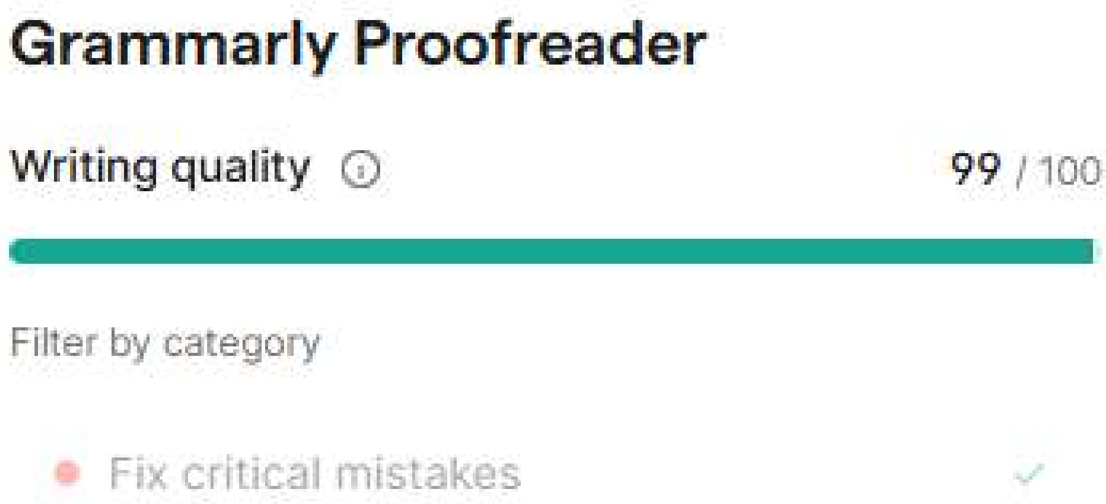
Grammarly Results



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