

CHICKEN BONE CONCENTRATED

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Bronze Medal in Environmental Science Category i-RYSCE 2017

1. Introduction

Chicken (*Gallus gallus domesticus*) is a domesticated fowl which their flesh is utilized as food. Fowl (next will be called as "chicken") is a direct descendant of one jungle fowl sub-species known as the red jungle fowl (*Gallus gallus*) or chicken bangkiwa (bankiva fowl). There are many types of chicken in the world. People usually consume meat or chicken eggs.

Average people of the world love fast food. Because the price of chicken meat is fairly cheap compared to other meat prices. Fried chicken is also favored because it sold in many fast food restaurants. The number of fast-food chicken restaurant in the world there are approximately 43,000 restaurant.

Every day the amount of chicken bones waste growing much. Chicken Bone contain calcium, protein, and minerals to feed laying hens. Besides, it also contains nutrients such as minerals, protein and vitamin D. This research is to process the chicken bones become the hens feed.

2. Problem Statement

How is the effectiveness of giving chicken bone concentrated to the hens.

3. The Purpose of Investigation

This investigation aims to reduce waste chicken bones as well as lowering the price of animal feed.

4. Research Method

This research was carried out by crushing the original chicken bones into flour or change them into concentrate. The process of making chicken bones into animal feed is divided into four steps: 1) washing the chicken bones with fresh water thoroughly; 2) grilling the chicken bone in the oven with a temperature of 100°C within \pm 30 minutes; 3) grinding the chicken bones into flour; and 4) mixing mixing concentrate with a ratio of 2: 3: 5 (chicken bone meal: corn flour :bran)

The experiments of feeding chicken conducted in small ranch of Bogor, Indonesia. 2 chickens (both aged 18 weeks) were given a different feed in this experiment. The day before the laying hens, the chicken feed was replaced. One chicken was fed with 100 grams of ordinary chicken feed (OCF) and one chicken was fed with 100 grams of chicken feed containing chicken bone (CFCB).

5. Results and Analysis

1 kg of bone produce bone flour 200 gr. This means there is a decrease of 80% due to the drying process that makes the water content of bone is reduced. Once we tried 3 ratio (including 1: 2: 7, 2: 3: 5 and 3: 2: 5) The comparison ratio is chosen because it is most economical.

Chicken feed that I made has a price of Rp4.400,00 or 1.4 MYR (Malaysian Ringgit) or 0.33 USD (US Dollar). The price of ordinary chicken feed found in Indonesia is Rp9.000,00 or 2.9 MYR and 0,6 USD.

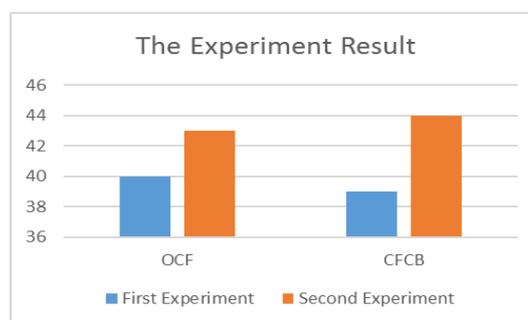


Figure 1. Comparison of chicken eggs that eat OCF and CFCB

In the first experiment, the chickens that were given OCF produced eggs with normal weight 40 gram, whereas chickens fed by CFCB produced eggs weighing 43 grams. In the second experiment, which the feed were alternated, the chickens that were given OCF produce eggs with normal weight 39 gram, whereas chickens fed by CFCB produce eggs with a weight of 44 grams eggs produced by chickens that ate CFCB had a harderouter shell and the yolk is more concentrated.

6. Conclusion

This research can reduce the amount of waste chicken bones and turn it into chicken feed. This research can also reduce the price of chicken feed that greatly affect the price of chicken. There is a difference of a number of Rp4.600 or 1.4 MYR or 0.3 USD. The chicken feed containing chicken bone also can help chicken to produce a weighter egg, harderouter shell and more concentrated yolk. The difference in weight of chicken eggswere given OCF with CFCB is 4 grams.

References

- [1] Capah, R. L. 2006. *Kandungan Nitrogen dan Fosfor Pupuk Organik Cair dari Sludge Instalasi Gas Bio dengan Penambahan Tepung Tulang Ayam dan Tepung Darah Sapi*. Skripsi Program Studi Teknologi Produksi Ternak. Institut Pertanian Bogor.
- [2] Rasyaf M. 1990. *Bahan Makanan Unggas di Indonesia*. Jakarta : Penerbit Kanisius.
- [3] SNI 01-3158-1992. *Karakteristik Mutu Kandungan tepung Tulang Mutu I dan II* . Badan Standarisasi Nasional.