

ABSTRACT

Sadiyah, Halimatus. 2011. The Effect of Combination of Flour Golden Apple Snails (*Pomacea canaliculata*) Flour and Water Fern (*Azolla pinnata*) Fermented Flour on Productivity, Weight, and Egg Protein Content of Laying Hens Isa Brown Strains Period Layer. Thesis, Biology Department, Science and Technology Faculty, The State Islamic University, Maulana Malik Ibrahim Malang. Advisor: Dr.drh.Bayyinatul Muchtaromah, M.Si and Dr. Munirul Abidin, M.Ag.

Keyword: Laying Hens Isa Brown Strains, Golden Apple Snails, Water Fern, , Egg Productivity, Egg Weight, Egg Protein Content

Feed requirements followed by the expensive cost of feed were a major problem for breeders today. A high price of feed raw materials was due to the limited amount of supply on the market, so it must be imported as fish and soybean meal. As we know that fish and soybean meal are feed raw materials for high quality protein sources. One way to solve these problems is the use of golden apple snail and water fern for alternative substitution of fish and soybean meal. Golden apple snail and water fern is the raw material to feed with a high protein content of balanced essential amino acids, and the numbers of these materials are abundant. The water fern has high roughage, so it must be fermented to reduce its fiber roughness.

The aim of this research was to know the effect of giving a combination of golden apple snail and water fern fermented flour on productivity, weight, and egg protein content of laying hens Isa Brown Strain.

This research is experimental that uses 20 laying hens Isa Brown Strain 17 month old. This study used a completely randomized design (RAL) with 5 treatments and 4 replacements. The treatments used in this study were P0 (control), P1 (golden apple snail flour 2,5% + water fern fermented flour 10%), P2 (golden apple snail flour 5% + water fern fermented flour 7,5%), P3 (golden apple snail flour 7,5% + water fern fermented flour 5%), and P4 (golden apple snail flour 10% + water fern fermented flour 2,5%). All of data have been analyzed by using ANOVA single. If the calculation results in differ significantly, then conducted further tests with BNT 0.05.

The result showed that the averages of protein content were 14, 77%., where the highest protein content was on P4 (15, 56%) and the lowest was on P0 (13, 7%). The averages of egg weight were 63, 28 gram, where the highest weight was on P4 (65, 48 gram) and the lowest was on P0 (63, 06 gram). The averages of egg productivity were 66, 61%, where the highest productivity was on P0 (71, 43%) and the lowest was on P1 (59,82%). Results also showed that giving combination of golden apple snail flour and water fern fermented flour affected on protein content, but did not affect on productivity and egg weight, while the best combination was P4 treatment which resulted in egg with high quality.