

# **Supplementation of Bio-Emulsifier from *Pseudomonas putida* with Media Containing Used Cooking Oil as Feed Additive for Energy Optimization in Poultry Feed**

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## **ABSTRACT**

Energy is a feed ingredient that has an important role in terms of chicken growth in addition to protein. Oil as an energy source that is often used is less efficient because oil is difficult to digest. So, in this study, a trial was conducted to add a bio-emulsifier from the bacterium *Pseudomonas putida* as a *feed additive* to the performance of broiler chickens. This research was conducted using 2 methods, namely the *in vitro* method and the *in vivo* method. *In vitro* tests were conducted to test the formation of oil bubbles in water using a bio-emulsifier, while *in vivo* tests were carried out on 200 Cobb strain broiler chickens aged 21-35 days which were divided into 4 treatments using 5 replications each using 10 chickens. The feed treatments tested were based on doses of 0, 0.5, 1, 1.5 g/kg of feed. The treatments consisted of P0 = control feed, P1 = feed with the addition of a bio-emulsifier from *Pseudomonas putida* 0.5 g/kg feed, P2 = feed with the addition of a bio-emulsifier from *Pseudomonas putida* 1 g/kg feed, P3 = feed with the addition of bio - emulsifier of *Pseudomonas putida* 1.5 g/kg feed. Parameters observed were feed consumption, body weight gain, and feed conversion. In the first trial it was found that the bio-emulsifier could increase the formation of small oil bubbles in water, while the second trial showed that body weight gain, feed consumption, and feed conversion were not affected by the bio-emulsifier supplementation given, but the results did not decrease broiler performance. itself. This results give new information that bio-emulsifier from *Pseudomonas putida* could potentially as new alternative *feed additive* in the future in broiler performance.

(Keywords: Use of Oil, Bio-emusifier, *Pseudomonas putida* )