PENGARUH EKSTRAK BUAH MAJA TERHADAP DAYA HAMBAT BAKTERI UREASE *Escherichia coli* DAN KEMAMPUAN MEREDUKSI AMONIA PADA EKSTRETA AYAM PETELUR

Nurfitroh Lewa

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian ekstrak buah maja terhadap daya hambat bakteri *E. coli* dan kemampuanya mereduksi amonia pada ekskreta ayam petelur. Perlakuan menggunakan ekstrak buah maja dengan konsentrasi sebesar 10% sampai 100% untuk uji daya hambat, konsentrasi ekstrak 1%, 2%, 3% untuk uji pertumbuhan bakteri *E. coli*, konsentrasi ekstrak 5%, 7,5%, 10% untuk uji reduksi amonia. Variabel yang diamati adalah diameter zona hambat, koefisien pertumbuhan bakteri dan penurunan konsentrasi amonia. Data hasil penelitian dianalisis dengan analisis variansi rancangan acak lengkap (RAL) pola searah dan dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DMRT). Uji daya hambat ekstrak buah maja dengan level berbeda terhadap pertumbuhan bakteri *E. coli* menunjukkan perbedaan sangat nyata (P<0,01) yaitu menghambat pertumbuhan *E. coli*. Hasil uji pertumbuhan bakteri menghasilkan nilai koefisien pertumbuhan bakteri *E. coli* menunjukan perbedaan sangat nyata (P<0,01) yaitu menghambat pertumbuhan *E. coli* pada medium NB. Hasil uji reduksi amonia menunjukan perbedaan yang sangat nyata (P<0,01) yaitu menurunkan emisi amonia. Kesimpulan dari hasil penelitian ini adalah penambahan ekstrak buah maja menghambat pertumbuhan bakteri *E. coli* dan berpotensi sebagai agen pereduksi amonia.

Kata kunci : *Aegle marmelos,* Amonia, Maserasi, Urease, Amonia, Reduksi Amonia, Daya Hambat, Pertumbuhan Bakteri.

THE INFLUENCE OF *Aegle Marmelos EXTRACTS* ON THE INHIBITORY EFFECT OF UREASE BACTERIA *Escherichia coli* AND THE ABILITY TO REDUCE AMMONIA IN EXTRETE OF LAYING PULLET

Nurfitroh Lewa

ABSTRACT

This study aimed to determine the effect of the additio of maja fruit extract on the inhibition of *E. coli* bacteria and its ability to reduce ammonia in excreta of laying pullet. The treatment uses maja fruit extract with a concentration of 10% to 100% to test the inhibition, extract concentration of 1%, 2%, 3% to test the growth of *E. coli* bacteria, extract concentration of 5%, 7.5%, 10% for the test ammonia reduction. The variables observed were inhibitory zone diameter, bacterial growth coefficient and decreased ammonia concentration. The results of the study data were analyzed by a unidirectional randomized variance design (RAL) pattern and continued with Duncan's New Multiple Range Test (DMRT) test. The inhibitory test of maja fruit extract with different levels on the growth of *E. coli* bacteria showed a very significant difference (P<0,01) which inhibited *E. coli* growth. The results of bacterial growth test resulted in the growth coefficient value of *E. coli* bacteria showed a very significant difference (P<0,01), which inhibits the growth of *E. coli* in the NB medium. The results of the ammonia reduction test showed a very significant difference (P<0,01) which was to reduce ammonia emissions. The conclusion from the results of this study is the addition of maja fruit extract inhibits the growth of *E. coli* bacteria and has the potential as an ammonia reducing agent.

Keywords: Aegle Marmelos, Ammonia, Maseration, Urease, Ammonia, Ammonia Reduction, Inhibitory Effect, Bacterial Growth.