

INTISARI

SUKMA, V., AKTIVITAS LARVASIDA EKSTRAK ETANOL, FRAKSI n-HEKSANA, FRAKSI ETIL ASETAT, DAN FRAKSI AIR DAUN BELIMBING WULUH (*Averrhoa bilimbi* L.) TERHADAP LARVA NYAMUK *Aedes aegypti* INSTAR III, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Daun belimbing wuluh (*Averrhoa bilimbi* L.) adalah tanaman yang memiliki khasiat insektisida alternatif yang mengandung senyawa flavonoid, terpenoid, dan tanin. Tujuan penelitian ini adalah mengetahui aktivitas larvasida ekstrak etanol, fraksi *n-heksana*, fraksi etil asetat, dan fraksi air daun belimbing wuluh (*Averrhoa bilimbi* L.) terhadap nyamuk *Aedes aegypti* instar III yang dinyatakan dalam LC₅₀ dan mengetahui sediaan uji yang paling aktif.

Serbuk daun dimaserasi sebanyak 2 kali dengan setiap maserasi dilakukan selama 2 hari menggunakan pelarut etanol 96%, kemudian difraksinasi menggunakan *n-heksana*, etil asetat, dan air. Kelompok perlakuan dibagi menjadi 9 kelompok dengan 6 seri konsentrasi (300 ppm, 350 ppm, 400 ppm, 450 ppm, 500 ppm, 550 ppm), kontrol positif (ABATE 1G® 0,01%), kontrol negatif (tween 80 1%) dan kontrol normal (aquadestilata). Masing-masing dimasukkan ke dalam gelas uji yang berisi 25 ekor larva nyamuk *Aedes aegypti* selama 24 jam, kemudian dihitung jumlah larva yang mati. Percobaan direplikasi 4 kali. Masing-masing konsentrasi ditetapkan dengan metode analisis probit. Data dianalisis statistik uji ANOVA.

Hasil penelitian menunjukkan fraksi etil asetat daun belimbing wuluh memiliki aktivitas paling aktif dengan nilai LC₅₀ 551,808 µg/mL, dibandingkan dengan fraksi air, ekstrak etanol dan fraksi *n-heksana* dengan nilai LC₅₀ masing-masing adalah 583,377 µg/mL, 633,304 µg/mL dan 687, 413 µg/mL.

Kata kunci : *Averrhoa bilimbi* L., ekstrak etanol, fraksi, LC₅₀, *Aedes aegypti*, Larvasida

ABSTRACT

SUKMA, V., ACTIVITIES LARVICIDES ETHANOL EXTRACT, FRACTION OF n-HEXANE, ETHYL ACETATE FRACTION, FRACTION OF WATER AND STARFRUIT LEAVES (*Averrhoa bilimbi* L.) ON THE LARVA *Aedes aegypti* INSTAR III, SKRIPSI, FACULTY OF PHARMACY, UNIVERSITY OF SETIA BUDI, Surakarta.

Starfruit leaves (*Averrhoa bilimbi* L.) is a plant that has a property alternative insecticides that contain flavonoids, terpenoids and tannins. The purpose of this study was to determine the larvicidal activity of ethanol extract, fraction of n-hexane, ethyl acetate fraction and water fraction leaves starfruit (*Averrhoa bilimbi* L.) against *Aedes aegypti* instar III expressed in LC_{50} and knowing the test preparation are most active.

Macerated leaf powder 2 times with each maceration performed for 2 days using ethanol 96%, then fractionated using n-hexane, ethyl acetate, and water. The treatment group was divided into 9 groups with 6 series concentrations (300 ppm, 350 ppm, 400 ppm, 450 ppm, 500 ppm, 550 ppm), positive control (ABATE 1G@ 0.01%), negative control (tween 80 1%) and normal controls (aquadestilata). Each put into a glass test containing 25 larvae of *Aedes aegypti* for 24 hours, then counted the number of larvae died. The experiment is replicated 4 times. Each concentration was determined by probit analysis method. Data were analyzed statistically ANOVA test.

The results showed ethyl acetate fraction starfruit leaves have the most active activity with LC_{50} value of 551.808 $\mu\text{g} / \text{mL}$, compared with the fraction of water, ethanol extract and fractions with n-Hexane LC_{50} values respectively 583.377 $\mu\text{g} / \text{mL}$, 633.304 $\mu\text{g} / \text{mL}$ and 687, 413 $\mu\text{g} / \text{mL}$.

Keywords: *Averrhoa bilimbi* L., ethanol extract, fractions, LC_{50} , *Aedes aegypti*, larvicides