INTISARI

Pemilihan volume kendang pengujian dan jumlah pasangan adalah bagian penting dari penelitian lalat buah. Oleh karena itu, diperlukan pengujian variasi beberapa ukuran kandang dan jumlah pasang terhadap perilaku kawin lalat buah *B. carambolae* (Diptera: Tephritidae). Tujuan dari penelitian ini untuk menganalisis pengaruh variasi ukuran kandang dan jumlah pasang terhadap perilaku kawin *B. carambolae*. Penelitian dilaksanakan pada bulan Januari-Juni 2024. Pelaksanaan penelitian dilakukan dengan persiapan kandang pengujian dengan ukuran kandang 10 x 10 x 10 cm, 15 x 15 x 15 cm, dan 20 x 20 x 20 cm, perbanyakan serangga uji, pengujian dimensi kandang dan jumlah pasang lalat buah dengan perlakuan 1, 3, dan 5 pasang lalat buah dengan 3 ulangan, serta dilakukan pengamatan berupa perilaku kawin, jumlah telur, dan viabilitas telur. Selanjutnya data dianalisis menggunakan ANOVA dengan taraf kepercayaan 95% dan di uji lanjut menggunakan DMRT, serta dilakukan analisis regresi-korelasi sukses kawin dengan viabilitas telur. Berdasarkan penelitian, disimpulkan bahwa *B. carambolae* kawin pada pukul 15.30-17.38 WIB dengan intensitas cahaya 48-1 lux, kombinasi ukuran kandang 15 x 15 x 15 cm dan kandang ukuran 20 x 20 x 20 cm masing-masing dengan 5 pasang lalat buah menghasilkan jumlah telur dan viabilitas telur tertinggi. Dengan terdapat korelasi siginifikan antara sukses kawin dengan viabilitas telur.

Kata kunci: Ukuran kandang, jumlah pasang, *B. carambolae*, perilaku kawin.

ABSTRACT

Selection of cage measurement volume and number of partners is an important part of fruit fly research. Therefore, it is necessary to test variations in several cage sizes and number of pairs on the mating behavior of fruit flies *B. carambolae* (Diptera: Tephritidae). The aim of this research was to analyze the effect of variations in cage size and number of pairs on mating behavior *B. carambolae*. This research was carried out in January-June 2024. The research was carried out by preparing test cages with cage sizes of 10 x 10 x 10 cm, 15 x 15 x 15 cm and 20 x 20 x 20 cm, mass rearing insect test, testing cage dimensions and number of pairs of fruit flies with treatments of 1, 3, and 5 pairs of fruit flies. The treatments were replicated 3 ties which parameters such as mating behavior, number of eggs, and egg viability. The data were analyzed using ANOVA with a confidence level of 95% and further tested using DMRT, as well as a regression analysis-correlation of mating success with egg viability. The research showed, it is concluded that *B. carambolae* mating at 15.30-17.38 WIB with a light intensity of 48-1 lux, Cage measeurement of 15 x 15 x 15 cm and cage size 20 x 20 x 20 cm in combine to 5 pairs of fruit flies produced the highest number of eggs and egg viability. There is a significant correlation between mating success and egg viability.

Keywords: Cage size, number of pairs, *B. carambolae*, mating behavior.