

WADAH PEMELIHARAAN *Oryctes rhinoceros* UNTUK PENELURAN DAN KANDUNGAN TELUR IMAGO POPULASI ALAMI ASAL PERKEBUNAN SAWIT

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Intisari

Peremajaan kelapa sawit menghasilkan limbah biomasa organik yang melimpah. Pelapukan alami limbah tersebut relatif lama sehingga perlu upaya percepatan antara lain dengan pemanfaatan larva kumbang badak (*Oryctes rhinoceros*) sebagai agen dekomposer. Data kemampuan bertelur kumbang badak diperlukan untuk mendukung penentuan jumlah individu kumbang badak yang diperlukan untuk percepatan pelapukan tersebut. Sementara itu untuk pemeliharaan kumbang badak diperlukan wadah yang sesuai. Penelitian bertujuan untuk mengetahui tipe wadah yang sesuai untuk peletakan telur dan banyaknya telur yang dihasilkan oleh individu kumbang badak populasi alami. Penelitian laboratorium dilaksanakan di insektarium PPKS Marihat, Pematang Siantar, Sumatera Utara dan koleksi kumbang badak betina dilakukan di Desa Marihat, Adolina, Bah Birong Ulu, dan Dolok Sinumba sejak bulan Februari sampai Mei 2023. Koleksi kumbang badak betina dilakukan dengan perangkap feromon agregasi berbahan etil 4-metiloktanoat di kebun sawit dataran rendah (tanaman belum menghasilkan, TBM), dataran sedang (tanaman menghasilkan, TM), dataran tinggi (TBM), dan limbah pabrik. Tipe wadah yang diuji adalah (1) kotak plastik dengan media 1000 g, (2) tabung plastik dengan media 350 g, (3) tabung plastik dilengkapi plastik *fiber* dengan media 700 g, (4) kotak tripleks dengan media 1000 g, dan (5) kotak kawat jaring dengan media 1000 g. Setiap individu kumbang badak betina asal kebun sawit dibedah dan banyaknya telur dihitung. Hasil penelitian menunjukkan bahwa semua tipe wadah yang diuji tidak sesuai untuk peneluran kumbang badak karena ketebalan media tipis kurang dari 15 cm. Jumlah telur setiap individu kumbang badak asal kebun sawit TBM (<300 m dpl) 11,76 butir (n = 112, kisaran 0-47), TM (300-700 m dpl) 11,68 butir (n = 100, kisaran 0-42) dan TBM dataran tinggi (>700 m dpl) 9,42 butir (n = 15, kisaran 0-21), dan limbah pabrik 7,75 butir (n = 4, kisaran 1-15). Umur kelapa sawit dan elevasi tidak berpengaruh terhadap produksi telur kumbang badak.

Kata Kunci: kumbang badak, *Oryctes rhinoceros*, pemeliharaan, telur, wadah

CONTAINERS FOR EGG LAYING OF *Oryctes rhinoceros* AND EGG NUMBERS PRODUCED BY FEMALE FROM NATURAL POPULATION

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Abstract

Renewal of oil palm plantations produces abundant organic biomass waste. The natural decomposition of this waste takes a relatively long time, so efforts are needed to accelerate the process, one of which is by using the larvae of the rhinoceros beetle (*Oryctes rhinoceros*) as decomposer agents. Data on the beetle's egg-laying ability are necessary to determine the number of beetle individuals required for accelerating the decomposition. Meanwhile, suitable containers are needed for breeding the rhinoceros beetles. The research aims to identify the appropriate container types for egg-laying and the number of eggs produced by individual rhinoceros beetles in the natural population. Laboratory research was conducted at the IOPRI Marihat insectarium, Pematang Siantar, North Sumatra, and female rhinoceros beetles were collected from Marihat Village, Adolina, Bah Birong Ulu, and Dolok Sinumba from February to May 2023. Female rhinoceros beetles were collected using aggregation pheromone traps containing ethyl 4-methyl octanoate in lowland oil palm plantations (pre-productive palms), midland oil palm plantations (productive palms), highland oil palm plantations (pre-productive palms), and factory waste. The tested container types were (1) plastic box with 1000g of media, (2) plastic tube with 350g of media, (3) plastic tube with plastic fiber and 700g of media, (4) plywood box with 1000g of media, and (5) wire mesh box with 1000g of media. Each female rhinoceros beetle from the oil palm plantations was dissected, and the number of eggs was counted. The results showed that all tested container types were not suitable for rhinoceros beetle egg-laying due to the thin media thickness of less than 15 cm. The number of eggs produced by each female rhinoceros beetle from lowland oil palm plantations (<300 m above sea level) was 11,76 eggs (n = 112, ranging from 0 to 47), midland oil palm plantations (300-700 m above sea level) was 11,68 eggs (n = 100, ranging from 0 to 42), highland oil palm plantations (>700 m above sea level) was 9,42 eggs (n = 15, ranging from 0 to 21), and factory waste was 7,75 eggs (n = 4, ranging from 1 to 15). The age of the oil palm trees and elevation did not have a significant effect on the rhinoceros beetle's egg production.

Keywords: breeding, container, egg, *Oryctes rhinoceros*