

ABSTRAK

Pembibitan merupakan tahapan penting dalam budidaya kelapa sawit karena menentukan kualitas bibit sebelum dipindahkan ke lapangan. Salah satu upaya untuk meningkatkan pertumbuhan vegetatif bibit adalah melalui pemanfaatan pupuk organik berbasis limbah lokal, seperti kotoran kambing, gedebong pisang, dan gulma kirinyuh. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian pupuk organik berbasis limbah ternak kambing, gedebong pisang, dan gulma kirinyuh serta menentukan dosis terbaik terhadap pertumbuhan vegetatif bibit kelapa sawit (*Elaeis guineensis* Jacq.). Penelitian dilaksanakan di CV. Gotama, Desa Langkan, Kecamatan Banyuasin III, Kabupaten Banyuasin, Sumatera Selatan pada bulan Maret sampai Juli 2026. Penelitian menggunakan Rancangan Acak Kelompok (RAK) nonfaktorial yang terdiri atas lima perlakuan, yaitu P0 (kontrol), P1 (50 g/polybag), P2 (100 g/polybag), P3 (150 g/polybag), dan P4 (200 g/polybag), dengan tiga ulangan sehingga diperoleh 75 bibit kelapa sawit varietas Damimas berumur 4 bulan. Parameter yang diamati meliputi tinggi tanaman, jumlah daun, dan diameter batang. Data dianalisis menggunakan analisis ragam (ANOVA) pada taraf 5% dan dilanjutkan dengan Uji Beda Nyata Jujur (BNJ) apabila terdapat pengaruh nyata. Hasil penelitian menunjukkan bahwa pemberian pupuk organik berbasis limbah ternak kambing, batang pisang, dan gulma kirinyuh memberikan respons yang berbeda terhadap pertumbuhan vegetatif bibit kelapa sawit. Perlakuan berpengaruh nyata hingga sangat nyata pada beberapa waktu pengamatan terhadap tinggi tanaman dan diameter batang, sedangkan jumlah daun pada sebagian besar waktu pengamatan tidak menunjukkan pengaruh nyata. Secara umum, perlakuan P4 (200 g/polybag) memberikan pertumbuhan vegetatif terbaik hingga akhir pengamatan, dengan tinggi tanaman 63,13 cm, jumlah daun 9 helai, dan diameter batang 2,39 cm. Oleh karena itu, dosis 200 g/polybag direkomendasikan sebagai dosis yang efektif untuk mendukung pertumbuhan vegetatif bibit kelapa sawit.

Kata Kunci: kelapa sawit, vegetatif, limbah kambing, batang pisang, kir

ABSTRACT

The nursery stage is a crucial phase in oil palm cultivation, as it determines seedling quality prior to field transplanting. One strategy to enhance seedling vegetative growth is the use of organic fertilizers derived from local waste materials, such as goat manure, banana pseudostems, and *Chromolaena odorata* (kirinyuh) weeds. This study aimed to evaluate the effects of applying organic fertilizer based on goat manure, banana pseudostems, and *Chromolaena odorata* weeds, and to determine the optimal dosage for the vegetative growth of oil palm (*Elaeis guineensis* Jacq.) seedlings. The research was conducted at CV. Gotama, Langkan Village, Banyuasin III District, Banyuasin Regency, South Sumatra, from March to July 2026. A non-factorial Randomized Block Design (RBD) was employed, comprising five treatments: P0 (control), P1 (50 g/polybag), P2 (100 g/polybag), P3 (150 g/polybag), and P4 (200 g/polybag), with three replications, resulting in a total of 75 four-month-old Damimas variety oil palm seedlings. Observed parameters included plant height, number of leaves, and stem diameter. Data were analyzed using Analysis of Variance (ANOVA) at the 5% significance level, followed by the Honestly Significant Difference (HSD) test where significant effects were observed. The results indicated that the application of organic fertilizer derived from goat manure, banana pseudostems, and *Chromolaena odorata* weeds elicited varying responses regarding the vegetative growth of the oil palm seedlings. The treatments showed significant to highly significant effects on plant height and stem diameter at several observation intervals, whereas the number of leaves showed no significant effect during most observation periods. Overall, treatment P4 (200 g/polybag) yielded the best vegetative growth by the end of the observation period, achieving a plant height of 63.13 cm, 9 leaves, and a stem diameter of 2.39 cm. Therefore, a dosage of 200 g/polybag is recommended as an effective rate to support the vegetative growth of oil palm seedlings.

Keywords: oil palm, vegetative, goat manure, banana stem, *Chromolaena odorata*.