

ABSTRAK

PENGARUH PEMBERIAN PUPUK CAIR KOMBINASI DAUN GAMAL (*Gliricidia sepium*) DAN DAUN KELOR (*Moringa oleifera*) TERHADAP PERTUMBUHAN TANAMAN BUNCIS (*Phaseolus vulgaris L*)

Mboru, J. D)*

Rupidara, A. D. N) **

Daud, Y)**

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian pupuk organik cair (POC) kombinasi daun gamal (*Gliricidia sepium*) dan daun kelor (*Moringa oleifera*) terhadap pertumbuhan dan hasil tanaman buncis (*Phaseolus vulgaris L.*), serta menentukan konsentrasi terbaik yang memberikan pertumbuhan dan hasil optimal. Penelitian dilaksanakan pada bulan Mei–Juli 2026 di Laboratorium Pertanian Universitas Kristen Artha Wacana Kupang. Metode penelitian yang digunakan adalah eksperimen dengan Rancangan Acak Lengkap (RAL) faktor tunggal yang terdiri atas empat perlakuan, yaitu P0 (kontrol), P1 (50 mL POC + 50 mL air), P2 (60 mL POC + 40 mL air), dan P3 (65 mL POC + 35 mL air), masing-masing diulang sebanyak tiga kali. Parameter yang diamati meliputi tinggi tanaman, diameter batang, jumlah daun, jumlah bunga, dan jumlah polong. Data dianalisis menggunakan uji ANOVA dan dilanjutkan dengan uji BNT (LSD) taraf 5% pada parameter yang menunjukkan pengaruh nyata. Hasil penelitian menunjukkan bahwa pemberian POC kombinasi daun gamal dan daun kelor berpengaruh nyata terhadap diameter batang (Sig. = 0,001 < 0,05) dan jumlah bunga (Sig. = 0,004 < 0,05), sedangkan tinggi tanaman, jumlah daun dan jumlah polong tidak menunjukkan pengaruh nyata (Sig. > 0,05). Hasil uji lanjut BNT (LSD) taraf 5% menunjukkan adanya perbedaan antar perlakuan pada diameter batang dan jumlah bunga, dengan perlakuan P3 (65 mL POC + 35 mL air) memberikan nilai rata-rata tertinggi dibandingkan perlakuan **lainnya**. Secara keseluruhan, perlakuan P3 memberikan nilai rata-rata pertumbuhan dan hasil tanaman buncis yang paling tinggi dibandingkan perlakuan lainnya. Dengan demikian, P3 merupakan konsentrasi POC yang paling optimal berdasarkan nilai rata-rata dalam mendukung pertumbuhan dan hasil tanaman buncis.

Kata kunci: Pupuk organik cair, daun gamal, daun kelor, buncis.

Keterangan :

*) : Peneliti

**) : Pembimbing

ABSTRACT

THE EFFECT OF LIQUID ORGANIC FERTILIZER COMBINATION OF GLIRICIDIA LEAVES (*Gliricidia sepium*) AND MORINGA LEAVES (*Moringa oleifera*) ON THE GROWTH OF COMMON BEAN PLANTS (*Phaseolus vulgaris* L.)

Mboru, J. D)*

Rupidara, A. D. N) **

Daud, Y) **

This study aimed to determine the effect of liquid organic fertilizer (LOF) made from a combination of *Gliricidia* leaves (*Gliricidia sepium*) and *Moringa* leaves (*Moringa oleifera*) on the growth and yield of common bean plants (*Phaseolus vulgaris* L.), as well as to determine the best concentration that provides optimal growth and yield. The research was conducted from May to July 2026 at the Agricultural Laboratory of Universitas Kristen Artha Wacana Kupang. The research method used was an experimental method with a Completely Randomized Design (CRD) consisting of a single factor with four treatments, namely P0 (control), P1 (50 mL LOF + 50 mL water), P2 (60 mL LOF + 40 mL water), and P3 (65 mL LOF + 35 mL water), with each treatment replicated three times. The observed parameters included plant height, stem diameter, number of leaves, number of flowers, and number of pods. The data were analyzed using ANOVA and followed by the Least Significant Difference (LSD) test at the 5% significance level for parameters that showed significant effects. The results showed that the application of LOF made from a combination of *Gliricidia* and *Moringa* leaves had a significant effect on stem diameter (Sig. = 0.001 < 0.05) and number of flowers (Sig. = 0.004 < 0.05), while plant height, number of leaves, and number of pods did not show significant effects (Sig. > 0.05). The results of the 5% LSD test showed differences among treatments in stem diameter and number of flowers, with treatment P3 (65 mL LOF + 35 mL water) providing the highest average values compared with the other treatments. Overall, treatment P3 produced the highest average values for the growth and yield of common bean plants compared with the other treatments. Therefore, P3 was considered the optimal LOF concentration based on the average values in supporting the growth and yield of common bean plants.

Keywords: Liquid organic fertilizer, *Gliricidia* leaves, *Moringa* leaves, common beans.

Notes:

*) Researcher

**) Supervisors