

Sintia Lestari. 210311100036, Efektivitas Pemberian Abu Tebu dan Abu Jerami Terhadap Pertumbuhan dan Produksi Tanaman Kacang Panjang (*Vigna sinensis* L.) Pada Cekaman Kekeringan. Dibimbing oleh: Dr. Agr. Eko Setiawan, S.P., M.Si dan Dr. Diana Nurus Sholehah, S.Farm., Apt., M.Si.

ABSTRAK

Kacang panjang (*Vigna sinensis* L.) merupakan sayuran legum bernilai ekonomis tinggi, namun produksinya terus menurun akibat cekaman kekeringan. Penelitian ini bertujuan untuk mengevaluasi efektivitas abu tebu dan abu jerami dalam meningkatkan pertumbuhan dan produksi kacang panjang pada kondisi kekeringan. Penelitian dilaksanakan di *Green House* Program Studi Agroekoteknologi, Universitas Trunojoyo Madura pada Desember–Februari 2025, menggunakan Rancangan Acak Lengkap (RAL) non faktorial dengan 16 kombinasi perlakuan. Data dianalisis dengan ANOVA taraf 5% dan uji lanjut DMRT. Hasil penelitian pemberian kombinasi pembenah tanah dan cekaman berpengaruh nyata pada parameter pertumbuhan tanaman kacang panjang yaitu jumlah daun (3-4 MST), umur berbunga, namun tidak berpengaruh nyata pada parameter panjang tanaman (1-7 MST), jumlah daun (2 MST, 5 MST, 6 MST, 7 MST), diameter batang (1-7 MST). pada parameter hasil berpengaruh nyata pada bobot polong, panjang polong, diameter polong, berat basah brangkasan dan estimasi produksi per hektar, namun tidak berpengaruh nyata pada parameter jumlah polong, panjang polong, diameter polong, berat kering brangkasan. Hasil penelitian menunjukkan bahwa perlakuan (T3P0) cenderung memberikan hasil terbaik pada parameter hasil tanaman kacang panjang.

Kata Kunci: Abu Jerami, Abu Tebu, Cekaman Kekeringan, Kacang Panjang.

Sintia Lestari. 210311100036, Effectiveness of the Application of Cane Ash and Straw Ash on the Growth and Production of Long Bean Plants (*Vigna sinensis* L.) Under Drought Stress. Supervised by: Dr. Agr. Eko Setiawan, S.P., M.Si and Dr. Diana Nurus Sholehah, S.Farm., Apt., M.Si.

ABSTRACT

*Yardlong bean (*Vigna sinensis* L.) is a legume vegetable with high economic value; however, its production continues to decline due to drought stress. This study aimed to evaluate the effectiveness of sugarcane ash and straw ash in improving the growth and yield of yardlong bean under drought conditions. The research was conducted in the Green House of the Agroecotechnology Study Program, Universitas Trunojoyo Madura, from December to February 2025, using a RAL non-factorial design with 16 treatment combinations. Data were analyzed using ANOVA at the 5% level followed by DMRT test. The results showed that the combination of soil amendments and drought stress had a significant effect on growth parameters such as number of leaves (3–4 MST) and flowering time, but no significant effect on plant height (1–7 MST), number of leaves (2 MST, 5 MST, 6 MST, 7 MST), and stem diameter (1–7 MST). For yield parameters, significant effects were found on pod weight, pod length, pod diameter, fresh biomass weight, and estimated yield per hectare. However, no significant effects were observed on number of pods, dry biomass weight, and several other yield-related parameters. The results indicate that treatment T3P0 tended to provide the best outcomes on yield-related parameters of yardlong bean.*

Keywords: *drought stress, long beans, sugarcane ash, straw ash*