

Maudina Setiawati 180311100070. Respon Pertumbuhan Tanaman Jagung Akibat Pemberian Pupuk Kandang Sapi dan Kompos Jerami Di Alfisol. Pembimbing Dr. Ir. Eko Murniyanto, M.P.

ABSTRAK

Pupuk kandang sapi dan kompos jerami merupakan bahan organik yang mampu memperbaiki sifat fisik, kimia, dan biologi tanah. Pemberian bahan pupuk kandang sapi dan kompos jerami mampu memperbaiki sifat fisik tanah seperti menurunkan bobot isi, meningkatkan kadar air kapasitas lapang dan porositas tanah serta kemampuan tanah memegang air. Penelitian bertujuan untuk mengetahui respon pertumbuhan tanaman jagung akibat pemberian pupuk kandang sapi dan kompos jerami. Penelitian dilaksanakan pada bulan Oktober 2021 sampai Maret 2022 di Kebun Hortikultura Socah, Kabupaten Bangkalan, yang terletak pada ketinggian $\pm 4,2$ m dpl dengan jenis tanah mediteran merah. Rancangan perlakuan terdiri dari tanpa bahan organik (P1), pupuk kandang sapi (P2), kompos jerami (P3), dimana masing masing perlakuan diuji pada jagung Hibrida Bisi-2 dan jagung Lokal Tambin. Rancangan lingkungan yang digunakan adalah rancangan acak kelompok (RAK). Hasil penelitian menunjukkan bahwa perlakuan pupuk kandang sapi dan kompos jerami berpengaruh nyata pada parameter pertumbuhan tanaman, tongkol, bobot 100 biji dan kadar air jagung Hibrida, serta efisiensi penggunaan air, namun berpengaruh tidak nyata pada parameter panjang akar, tongkol dan bobot 100 biji jagung Lokal, bobot biji pertanaman, produksi, kadar air jagung Lokal, bobot isi, porositas tanah, dan kadar air relatif.

Kata kunci: alfisol, jagung, kadar air tanah, kompos jerami, pupuk kandang sapi.

Maudina Setiawati 180311100070. *Growth Response of Corn Plants Due to Application of Cow Manure and Straw Compost in Alfisol.* Supervisor **Dr. Ir. Eko Murniyanto, M.P.**

ABSTRACT

Cow manure and straw compost are organic materials that can improve the physical, chemical, and biological properties of the soil. The application of cow manure and straw compost was able to improve the physical properties of the soil such as reducing the bulk weight, increasing the water content of field capacity and soil porosity, and the ability of the soil to hold water. The study aimed to determine the growth response of corn plants due to the application of cow fertilizer and straw compost. The research was carried out from October 2021 to March 2022 at the Socah Horticultural Garden, Bangkalan Regency, which is located at an altitude of 4.2 m above sea level with red mediteran soil types. The treatment design consisted of no organic matter (P1), cow manure (P2), and straw compost (P3), where each treatment was tested on Bisi-2 Hybrid corn and Tambin Local corn. The environmental design used was a randomized block design (RAK). The results showed that the treatment of cow manure and straw compost had a significant effect on plant growth parameters, cobs, the weight of 100 seeds and moisture content of hybrid corn, as well as water use efficiency, but had no significant effect on parameters of root length, cob weight of 100 local corn seeds, the weight of planted seeds, production, moisture content of local corn, bulk weight, soil porosity, and relative moisture content.

Keywords: alfisol, corn, soil moisture content, straw compost, cow manure.