

## INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian biochar tempurung kelapa, *Rhizobium*, dan dosis rekomendasi pupuk/Ha Urea+TSP 36+KCl+ZA terhadap perubahan sifat kimia tanah, serapan hara NPK, pertumbuhan vegetatif dan generatif tanaman edamame, serta produktivitas tanaman edamame. Pengambilan sampel tanah dilakukan pada awal sebelum perlakuan dan pada saat panen. Pengambilan sampel tanaman dilakukan sejak tanaman berumur 7 HST hingga panen, dimana sampel tanaman diambil ketika berada di akhir masa generatif. Penelitian ini dilakukan di Desa Bolobatur, Kelurahan Tempurejo, Kecamatan Tempuran, Kabupaten Magelang, Provinsi Jawa Tengah serta Laboratorium Departemen Tanah pada bulan Juni 2021 – Maret 2022. Perlakuan yang diaplikasikan adalah pemberian biochar tempurung kelapa dengan dosis 0 ton/Ha dan 2 ton/Ha, perlakuan tanpa *Rhizobium* dan dengan penambahan *Rhizobium*, serta penambahan 0% dosis rekomendasi pupuk Urea+TSP 36+KCl+ZA, 50% dosis rekomendasi pupuk Urea+TSP 36+KCl+ZA, dan 100% dosis rekomendasi pupuk Urea+TSP 36+KCl+ZA pada tanaman edamame. Hasil penelitian menunjukkan bahwa perlakuan dosis 2 ton/Ha, penambahan *Rhizobium*, dan 100% dosis rekomendasi pupuk Urea+TSP 36+KCl+ZA berpengaruh dalam menaikkan bahan organik, KPK, ketersediaan NPK tanah serta serapan hara NPK pada tanaman edamame.

Kata kunci: Biochar tempurung kelapa, *Rhizobium*, dosis rekomendasi pupuk, tanaman edamame, serapan NPK.

## ABSTRACT

The research aimed to determine the effect of coconut shell biochar, *Rhizobium*, and recommended doses of fertilizer Urea + TSP 36 + KCl + ZA to changes in soil chemical properties, NPK nutrient uptake, vegetative and generative growth of edamame plants, and productivity of edamame plants. Soil sampling was carried out at the beginning before treatment and at harvest. Sampling of plants was carried out from the age of 7 DAP until harvest, where plant samples were taken when they were at the end of the generative period. This research was conducted at Bolobatur Village, Tempurejo Village, Tempuran District, Magelang Regency, Central Java Province and the Department of Soil Laboratory in June 2021 – March 2022. The treatment in this research consisted of the application coconut shell biochar at a dose of 0 tons  $\text{Ha}^{-1}$  and 2 tons  $\text{Ha}^{-1}$ , treatment without *Rhizobium* and with the addition of *Rhizobium* as well as the addition of 0% recommended fertilizer dose Urea + TSP 36 + KCl + ZA, 50% fertilizer recommended dose Urea + TSP 36 + KCl + ZA, and 100% fertilizer recommended dose Urea + TSP 36 + KCl + ZA in edamame plants. The results showed that the treatment dose of 2 tons  $\text{Ha}^{-1}$ , the addition of *Rhizobium*, and 100% recommended dose of fertilizer Urea + TSP 36 + KCl + ZA had an effect on increasing organic matter, CEC, soil NPK availability and NPK nutrient uptake in edamame plants.

Keywords: Coconut shell biochar, *Rhizobium*, recommended dose of fertilizer, edamame plant, NPK uptake.