

INTISARI

Produksi gula di Indonesia pada tahun 2022 belum memenuhi harapan swasembada. Salah satu permasalahan yang menyebabkan rendahnya produksi gula di Indonesia adalah pemberian pupuk terutama NPK yang belum tepat untuk memaksimalkan hasil rendemen. Penelitian ini dilakukan untuk mengkaji pengaruh formulasi pupuk NPK yang berbeda terhadap sifat kimia tanah di Inceptisol Seyegan, serapan hara dan pertumbuhan vegetatif pada tebu ratun VI varietas Bululawang sampai 6 BST. Penelitian dilaksanakan di lahan Planden, Margokaton, Seyegan, Sleman dalam waktu enam bulan. Penelitian ini disusun dengan Rancangan Acak Kelompok Lengkap (RAKL) non faktorial. Faktor perlakuan yang diberikan pada penelitian ini adalah (T1) NPKSZn 15-15-15-9-0,2 dosis 400 kg/ha dan ZA dosis 600 kg/ha, (T2) NPKS 14-9-18-4 dosis 1000 kg/ha, serta (T3) NPK 23-7-14 dosis 1000 kg/ha. Pemupukan dilakukan ketika tanaman memasuki usia 2 dan 4 BST. Data dianalisis dengan analisis sidik ragam dan diuji menggunakan uji HSD Tukey taraf 5%. Pengambilan sampel tanah dan sampel jaringan diambil saat memasuki 6 BST. Parameter sifat kimia meliputi kadar hara N, P, K, S, dan Zn, DHL, C-organik, serta pH tanah. Parameter agronomi meliputi tinggi tanaman, jumlah anakan, diameter batang, berat segar dan berat kering. Analisis hasil penelitian menunjukkan tidak ada perbedaan nyata antar perlakuan pada parameter agronomi dan estimasi produksi tebu. Namun, terdapat beda nyata antar perlakuan pada hasil kadar ammonium dan nitrat tanah Inceptisol Seyegan dua bulan setelah pemupukan, serta serapan hara Zn pada tebu ratun 6 BST. Perlakuan T1 menunjukkan hasil dengan kecenderungan lebih baik untuk parameter agronomi, serapan hara, dan estimasi produksi.

Kata kunci: Bululawang, Produksi Gula, Estimasi Produksi, Pupuk Majemuk

ABSTRACT

Sugar production in Indonesia in 2022 has not yet met the expectations of self-sufficiency. One of the issues causing low sugar production in Indonesia is the improper application of fertilizers, especially NPK, which has not been optimal in maximizing yield. This study was conducted to examine the effects of different NPK fertilizer formulations on soil chemical properties in Inceptisol Seyegan, nutrient uptake, and vegetative growth of 6-month-old Bululawang variety ratoon sugarcane. The research was conducted in Planden, Margokaton, Seyegan, Sleman over a six-month period. The study employed a Completely Randomized Complete Block Design (RCBD) non-factorial. The treatments included in this study were (T1) NPKSZn 15-15-15-9-0.2 at a dose of 400 kg/ha and ammonium sulfate (ZA) at a dose of 600 kg/ha, (T2) NPKS 14-9-18-4 at a dose of 1000 kg/ha, and (T3) NPK 23-7-14 at a dose of 1000 kg/ha. Fertilization was applied when the plants reached 2 and 4 months after planting. Data were analyzed using analysis of variance (ANOVA) and tested using Tukey's Honestly Significant Difference (HSD) test at a 5% significance level. Soil and tissue samples were collected at the 6th month after planting. Soil chemical parameters included nutrient levels of N, P, K, S, and Zn, electrical conductivity (EC), organic carbon (C), and pH. Agronomic parameters included plant height, number of tillers, stem diameter, fresh weight, and dry weight. The results of the study showed no significant differences among treatments in agronomic parameters and sugarcane production estimates. However, significant differences were found among treatments in the levels of ammonium and nitrate in Inceptisol Seyegan soil two months after fertilization, as well as zinc uptake in 6-month-old sugarcane. Treatment T1 showed results with a tendency towards better agronomic parameters, nutrient uptake, and yield estimation.

Keywords: Bululawang, Sugar Production, Yield Estimation, Compound Fertilizer