

Yosafat Petra Pratama Putranto, NIM 220311100006. Pertumbuhan dan Hasil Tanaman Bawang Merah (*Allium ascalonicum* L.) Varietas Rubaru Akibat Perlakuan Dosis Pupuk Anorganik dan Biosaka. Dibawah Bimbingan Ir. Sinar Suryawati, M.Si., dan Dr. Diana Nurus S, S.Farm Apt M.Si

ABSTRAK

Bawang merah merupakan komoditas hortikultura yang memiliki banyak manfaat. Namun, produktivitasnya di tingkat petani masih relatif rendah, sedangkan kebutuhan konsumsi terus meningkat setiap tahun. Penggunaan pupuk anorganik secara berlebihan juga dapat menurunkan kualitas tanah dan produktivitas tanaman, sehingga diperlukan alternatif pemupukan yang lebih efektif dan ramah lingkungan. Penelitian ini bertujuan untuk mengetahui pengaruh berbagai dosis pupuk anorganik dengan pemberian Biosaka yang diklaim mampu menekan penggunaan pupuk kimia hingga 30–70%. Penelitian dilaksanakan di Greenhouse dan Laboratorium Fakultas Pertanian Universitas Trunojoyo Madura pada November 2025–Februari 2026 menggunakan Rancangan Acak Kelompok (RAK) dengan 6 taraf dosis pupuk anorganik, yaitu P0 = kontrol, P1 = 20% dosis anjuran, P2 = 40% dosis anjuran, P3 = 60% dosis anjuran, P4 = 80% dosis anjuran dan P5 = 100% dosis anjuran pada bawang merah varietas Rubaru yang meliputi SP-36 200 kg/ha, Urea 300 kg/ha, KCl 400 kg/ha, ZA 250 kg/ha. Pengaplikasian biosaka dilakukan secara berkala setiap 5 hari sekali. Parameter yang diamati meliputi panjang daun, jumlah daun, panjang akar, jumlah umbi, diameter umbi, panjang umbi, bobot basah dan bobot kering umbi per rumpun, bobot kering per umbi, susut bobot, dan produksi per hektar. Data dianalisis secara statistik dan dilanjutkan dengan uji BNT taraf 5%. Hasil penelitian menunjukkan bahwa pemberian pupuk anorganik dosis 40% (SP-36 80 kg/ha, Urea 120 kg/ha, KCl 160 kg/ha dan ZA 100 kg/ha) dengan Biosaka mampu menekan penggunaan pupuk anorganik hingga 60% dan memberikan hasil terbaik pada sebagian besar parameter pengamatan, serta menghasilkan potensi produksi >50% lebih tinggi dibandingkan perlakuan tanpa pupuk dan 100% dosis anjuran.

Kata kunci: *Bawang merah, varietas Rubaru, pupuk Anorganik, Biosaka*

Yosafat Petra Pratama Putranto, NIM 220311100006. *Growth and Yield of Shallot (*Allium ascalonicum* L.) Rubaru Variety as Affected by Inorganic Fertilizer Dosage and Biosaka.* Under the Guidance of Ir. Sinar Suryawati, M.Si., and Dr. Diana Nurus S, S.Farm Apt M.Si

ABSTRACT

Shallots are a horticultural commodity with many benefits; however, their productivity at the farmer level is still relatively low, while consumption demand continues to increase every year. Excessive use of inorganic fertilizers can also reduce soil quality and crop productivity, therefore a more effective and environmentally friendly fertilization alternative is needed. This study aimed to determine the effect of various doses of inorganic fertilizers combined with Biosaka application, which is claimed to reduce the use of chemical fertilizers by 30–70%. The study was conducted at the Greenhouse and Laboratory of the Faculty of Agriculture, Universitas Trunojoyo Madura, from November 2025 to February 2026 using a Randomized Block Design (RBD) with six levels of inorganic fertilizer doses, namely P0 = control, P1 = 20% of the recommended dose, P2 = 40% of the recommended dose, P3 = 60% of the recommended dose, P4 = 80% of the recommended dose, and P5 = 100% of the recommended dose on Rubaru shallot variety, consisting of SP-36 200 kg/ha, Urea 300 kg/ha, KCl 400 kg/ha, and ZA 250 kg/ha. The application of Biosaka was carried out periodically every five days. The observed parameters included leaf length, number of leaves, root length, number of bulbs, bulb diameter, bulb length, fresh and dry bulb weight per clump, dry weight per bulb, weight loss, and yield per hectare. The data were statistically analyzed and followed by the Least Significant Difference (LSD) test at the 5% level. The results showed that the application of 40% inorganic fertilizer dose (SP-36 80 kg/ha, Urea 120 kg/ha, KCl 160 kg/ha, and ZA 100 kg/ha) combined with Biosaka was able to reduce inorganic fertilizer use by up to 60% and produced the best results for most observed parameters, while producing a yield potential more than 50% higher compared to the unfertilized treatment and the 100% recommended dose treatment.

Keywords: Shallot, Rubaru variety, inorganic fertilizer, Biosaka