

## INTISARI

Upaya menjaga lingkungan dapat dilakukan dengan beralih dari penggunaan pupuk anorganik ke pupuk organik. Penelitian ini bertujuan untuk mengetahui pengaruh bahan pupuk berupa NPK, bulu ayam dan lumpur limbah pabrik susu terhadap pertumbuhan dan hasil terung. Penelitian ini dilaksanakan pada bulan Januari – April 2021 di Pusat Inovasi Agroteknologi (PIAT UGM), Kalitirto, Berbah, Sleman, Daerah Istimewa Yogyakarta. Penelitian dilakukan dengan pendekatan percobaan menggunakan rancangan acak lengkap (RAL). Perlakuan terdiri dari pupuk NPK, pupuk organik berbahan baku lumpur limbah pabrik susu yang dikomposkan bersama seresah dan pupuk organik yang berasal dari bulu ayam. Takaran pupuk yang terdiri dari 2 aras yaitu 50% dan 100% dari takaran total serapan hara nitrogen terung. Sebagai pembanding, digunakanlah tanaman yang dibiarkan tumbuh tanpa penambahan pupuk. Terdapat 7 kombinasi perlakuan yang diulang 5 kali sehingga diperoleh 35 satuan percobaan. Variabel yang diamati berupa karakter iklim mikro, fisika dan kimia media tanam, pertumbuhan, komponen hasil dan hasil tanaman terung. Data yang diperoleh selanjutnya dianalisis varian (ANOVA) pada  $\alpha$  5%, dan dilanjutkan dengan uji *Honestly Significant Difference* (HSD) Tukey jika hasil ANOVA menunjukkan perbedaan yang nyata antar perlakuan. Hasil penelitian memberikan informasi bahwa penggunaan pupuk organik berbasis limbah bulu ayam dan lumpur limbah pabrik susu pada takaran 100% mampu meningkatkan kandungan N total tanah jika dibandingkan dengan kontrol, dan setara dengan kandungan N total tanah pada perlakuan pupuk NPK mutiara takaran 50% maupun 100%. Kedua macam pupuk organik tersebut dapat direkomendasikan untuk menggantikan penggunaan pupuk NPK mutiara dalam budidaya terong, meskipun dampak positif berupa kenaikan kandungan N total tanah pada perlakuan pupuk organik berbasis limbah bulu ayam dan lumpur limbah pabrik susu takaran 100% belum terekspressi pada sifat pertumbuhan, komponen hasil dan hasil tanaman terong.

**Kata kunci:** terung, pupuk bulu ayam, pupuk lumpur limbah pabrik susu, pupuk NPK.

## ABSTRACT

Efforts to protect the environment can be done by switching from the use of inorganic fertilizers to organic fertilizers. This study aims to determine the effect of fertilizer materials in the form of NPK, chicken feathers and milk factory waste sludge on the growth and yield of eggplant. This research was conducted in January – April 2021 at the Agrotechnology Innovation Centre of Universitas Gadjah Mada (AIC- UGM), Kalitirto, Berbah, Sleman, Special Region of Yogyakarta. The study was conducted with an experimental approach using a completely randomized design (CRD). The treatments consisted of NPK fertilizer, organic fertilizer made from milk factory waste sludge which was composted with litter and organic fertilizer derived from chicken feathers. The dose of fertilizer consisting of 2 levels, namely 50% and 100% of the total nutrient uptake of eggplant nitrogen. For comparison, plants were allowed to grow without the addition of fertilizer were used. There were 7 treatment combinations which were repeated 5 times so that 35 experimental units were obtained. Some variables observed were characters of microclimate, soil physics and chemistry of growing media, growth, yield components, and yields of eggplant. Data were analyzed using analysis of variance (ANOVA) at  $\alpha$  5%, and continued with Tukey's Honestly Significant Difference (HSD) test if there were significant differences among treatments. The results showed that both types organic fertilizers at 100% dose were able to increase soil N-total content when compared to control, and were equivalent to soil N-total content of 50% and 100% doses of NPK Mutiara fertilizer. Both types of organic fertilizers could be recommended to replace NPK Mutiara fertilizer usage in eggplant cultivation, although positive impact of an increase in soil N-total content had not yet been expressed on growth, yield components, and yields of eggplant.

**Keywords:** eggplants, NPK fertilizer, sludge, and chicken feather fertilizer.