

ABSTRAK

Feny Adi Lestari. 2026. Respons Pertumbuhan dan Hasil Tanaman Pare (*Momordica Charantia* L.) terhadap Pemberian Pupuk Organik Cair Limbah Air Kolam Ikan Lele Dengan Pupuk NPK. Dibawah bimbingan Cecep Hidayat dan Jajang Supriatna.

Penggunaan pupuk anorganik secara berlebihan dapat menurunkan kualitas tanah dan produktivitas tanaman hortikultura termasuk pare (*Momordica charantia* L.). POC limbah air kolam ikan lele berpotensi menjadi sumber hara alternatif karena mengandung unsur hara makro dan mikro serta bahan organik yang dapat memperbaiki kesuburan tanah serta meningkatkan aktivitas mikroorganisme. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh dan menentukan dosis terbaik kombinasi POC limbah air kolam ikan lele dan NPK terhadap pertumbuhan dan hasil tanaman pare. Penelitian dilaksanakan di Desa Cileunyi Kulon, Kecamatan Cileunyi, Kabupaten Bandung mulai Oktober 2025 – April 2026. Metode penelitian menggunakan Rancangan Acak Kelompok (RAK) dengan 6 taraf perlakuan dan 4 kali ulangan, yaitu: A = Kontrol; B = 100% (1000 mL tanaman⁻¹ POC KL) + 0% (0 kg ha⁻¹ atau 0 g polybag⁻¹ NPK); C = 75% (750 mL tanaman⁻¹ POC KL) + 25% (75 kg ha⁻¹ atau 3 g polybag⁻¹ NPK); D = 50% (500 mL tanaman⁻¹ POC KL) + 50% (150 kg ha⁻¹ atau 6 g polybag⁻¹ NPK); E = 25% (250 mL tanaman⁻¹ POC KL) + 75% (225 kg ha⁻¹ atau 9 g polybag⁻¹ NPK); F = 0% (0 mL tanaman⁻¹ POC KL + 100% (300 kg ha⁻¹ atau 12 g polybag⁻¹ NPK) Hasil penelitian menunjukkan bahwa kombinasi POC limbah kolam lele dengan pupuk NPK berpengaruh nyata terhadap jumlah bunga, jumlah buah, indeks panen, dan berat segar buah per tanaman. Kombinasi POC limbah air kolam ikan lele 50% (500 mL tanaman⁻¹ atau 62,5 mL aplikasi) dengan pupuk NPK 50% (150 kg ha⁻¹ atau 6 g polybag⁻¹) merupakan perlakuan terbaik dalam meningkatkan hasil tanaman pare (*Momordica charantia* L.).

Kata kunci: Limbah kolam lele, NPK, Pare, Pertumbuhan, POC

ABSTRACT

Feny Adi Lestari. 2026. Growth and Yield Response of Bitter Gourd (*Momordica charantia* L.) to the Application of Catfish Pond Wastewater Liquid Organic Fertilizer Combined with NPK Fertilizer. Supervised by Cecep Hidayat and Jajang Supriatna.

Excessive use of inorganic fertilizers can degrade soil quality and reduce the productivity of horticultural crops, including bitter gourd (*Momordica charantia* L.). Liquid organic fertilizer (LOF) derived from catfish pond wastewater has potential as an alternative nutrient source, as it contains both macro and micronutrients as well as organic matter that can improve soil fertility and enhance microbial activity. The objective of this study was to evaluate the effect and determine the optimal dosage of combining catfish pond wastewater LOF with NPK fertilizer on the growth and yield of bitter gourd plants. The research was conducted in Cileunyi Kulon Village, Cileunyi District, Bandung Regency from October 2025 to April 2026. The study utilized a Randomized Block Design (RBD) with 6 treatment levels and 4 replications: A = Control; B = 100% (1000 mL plant⁻¹ LOF KL) + 0% (0 kg ha⁻¹ or 0 g polybag NPK); C = 75% (750 mL plant⁻¹ LOF KL) + 25% (75 kg ha⁻¹ or 3 g polybag NPK); D = 50% (500 mL plant⁻¹ LOF KL) + 50% (150 kg ha⁻¹ or 6 g polybag⁻¹ NPK); E = 25% (250 mL plant⁻¹ LOF KL) + 75% (225 kg ha⁻¹ or 9 g polybag⁻¹ NPK); F = 0% (0 mL plant⁻¹ LOF KL) + 100% (300 kg ha⁻¹ or 12 g polybag⁻¹ NPK). The results indicated that the combination of catfish pond wastewater LOF and NPK fertilizer had a significant effect on the number of flowers, number of fruits, harvest index, and fresh fruit weight per plant. The combination of 50% catfish pond wastewater LOF (500 mL plant⁻¹ or 62.5 mL per application) with 50% NPK fertilizer (150 kg ha⁻¹ or 6 g polybag⁻¹) was identified as the best treatment for increasing the yield of bitter gourd (*Momordica charantia* L.).

Keywords: LOF, NPK, Bitter gourd, Growth, Catfish pond waste