

## ABSTRAK

### **PENGARUH KOMBINASI TAKARAN PUPUK NPK DAN KONSENTRASI PUPUK ORGANIK CAIR LIMBAH SAYURAN PASAR TERHADAP PERTUMBUHAN DAN HASIL TANAMAN CABAI RAWIT (*Capsicum frutescens* L.)**

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Cabai rawit (*Capsicum frutescens* L.) merupakan komoditas hortikultura yang memiliki nilai ekonomi tinggi dan banyak dibutuhkan masyarakat. Guna meningkatkan pertumbuhan dan hasil tanaman cabai rawit maka diperlukan pemupukan yang tepat dan berimbang, baik dari sumber anorganik maupun organik. Penelitian bertujuan untuk mendapatkan kombinasi takaran pupuk NPK dan konsentrasi pupuk organik cair limbah sayuran pasar terbaik yang menghasilkan pertumbuhan dan hasil tanaman cabai rawit (*Capsicum frutescens* L.) tertinggi. Penelitian ini dilaksanakan pada bulan Juni sampai dengan Oktober 2025, menggunakan metode eksperimental dengan Rancangan Acak Kelompok (RAK) yang terdiri dari 7 perlakuan, A= 200 kg NPK/Ha (4 g/ tanaman), B= POC 30ml/l (46,6 ml/tanaman), C= 100 kg NPK/Ha (2 g/ tanaman) + POC 30 ml/l (46,6 ml/tanaman), D = 125 kg NPK/Ha (2,5 g/ tanaman) + POC 25 ml/l (56 ml/tanaman), E= 150 kg NPK/Ha (3 g/ tanaman)+ POC 20 ml/l (70 ml/tanaman), F= 175 kg NPK/Ha (3,5 g/ tanaman)+ POC 15 ml/l (93,3 ml/tanaman), G= 200 kg NPK/Ha (4 g/ tanaman)+ POC10 ml/l (140 ml/tanaman), dan diulang sebanyak 4 kali. Hasil penelitian menunjukkan bahwa kombinasi takaran pupuk NPK dan konsentrasi pupuk organik cair limbah sayuran pasar berpengaruh terhadap tinggi tanaman, jumlah daun, diameter batang, jumlah buah per tanaman, bobot buah per tanaman, dan bobot buah per petak. Perlakuan 200 kg NPK/Ha (4 g/tanaman) menunjukkan pengaruh paling baik pada fase vegetatif, sedangkan perlakuan 125 kg NPK/Ha (2,5 g/tanaman) + POC 25 ml/L (56 ml/tanaman) merupakan perlakuan paling baik terhadap hasil tanaman cabai rawit.

Kata kunci: Cabai rawit, limbah sayuran pasar, pupuk NPK, pupuk organik cair

## ABSTRACT

### THE EFFECT OF COMBINED DOSAGE OF NPK FERTILIZER AND CONCENTRATION OF LIQUID ORGANIC FERTILIZER FROM MARKET VEGETABLE WASTE ON THE GROWTH AND YIELD OF CHILI PEPPER PLANTS (*Capsicum frutescens* L.)

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Chili peppers (*Capsicum frutescens* L.) is a horticultural commodity that has high economic value and is in high demand by the community. To enhance the growth and yield of chili pepper plants, proper and balanced fertilization is required, both from inorganic and organic sources. This study aims to determine the optimal combination of NPK fertilizer dosage and market vegetable waste liquid organic fertilizer concentration that yields the highest growth and yield of chili pepper plants (*Capsicum frutescens*). The experiment was conducted from June to October 2025 using an experimental method with a Randomized Completely Block Design (RCBD) consisting of 7 treatments: A= 200 kg NPK/Ha (4 g/plant), B= LOF 30 ml/l (46.6 ml/plant), C= 100 kg NPK/Ha (2 g/plant) + LOF 30 ml/l (46.6 ml/plant), D= 125 kg NPK/Ha (2.5 g/plant) + LOF 25 ml/l (56 ml/plant), E= 150 kg NPK/Ha (3 g/plant)+ LOF 20 ml/l (70 ml/plant), F= 175 kg NPK/Ha (3.5 g/plant) + LOF 15 ml/l (93.3 ml/plant), G= 200 kg NPK/Ha (4 g/plant) + LOF 10 ml/l (140 ml/plant), and repeated 4 times. The results showed that the combination of NPK fertilizer dosage and vegetable market waste liquid organic fertilizer concentration affected plant height, number of leaves, stem diameter, number of fruits per plant, fruit weight per plant, and fruit weight per plot. The treatment of 200 kg NPK/Ha (4 g/plant) showed the best effect on the vegetative phase, while the treatment of 125 kg NPK/Ha (2.5 g/plant) + LOF 25 ml/L (56 ml/plant) was the best treatment for chilli pepper plants.

Keywords: Chili peppers, liquid organic fertilizer, NPK fertilizer, market vegetable waste