

**PENGARUH PEMBERIAN KOMBINASI PUPUK ORGANIK DAN  
ANORGANIK TERHADAP PERTUMBUHAN TANAMAN SAWI PUTIH  
(*Brassica rapa* L.)**

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**INTISARI**

Pertumbuhan jumlah penduduk menimbulkan tantangan terhadap ketersediaan pangan. Salah satu solusi untuk meningkatkan ketahanan dan kemandirian pangan adalah melalui pemanfaatan lahan pekarangan, terutama di perkotaan. Kendala utama di kota adalah keterbatasan lahan, yang dapat diatasi dengan teknik budidaya *polybag*. Salah satu tanaman yang cocok dibudidayakan adalah sawi putih (*Brassica rapa*). Namun, produktivitas tanaman di *polybag* sering rendah karena keterbatasan unsur hara. Diperlukan kombinasi pemupukan yang tepat antara pupuk anorganik dan pupuk organik untuk menjaga kondisi tanah serta tanaman pada penanaman di *polybag*. Oleh karena itu, penelitian ini bertujuan untuk mempelajari komposisi pupuk organik (POC) dan anorganik (NPK) yang optimal bagi tanaman sawi putih dan mengetahui pengaruhnya terhadap pertumbuhan dan hasil tanaman sawi putih. Penelitian ini dirancang dalam model Rancangan Acak Kelompok Lengkap (RAKL) dengan perlakuan empat macam kombinasi pupuk dengan masing-masing perlakuan terdapat lima ulangan. Perlakuan dengan kombinasi pupuk antara lain: F0 = NPK (kontrol), F1 = NPK + POC 1 ml, F2: NPK + POC 1 ml, F3: NPK + POC 2 ml, F4: NPK + POC 4 ml. Parameter yang diamati adalah tinggi tanaman, jumlah daun, berat basah, berat kering, kadar klorofil, kadar karotenoid, kadar vitamin C, dan kadar zat besi. Hasil menunjukkan pemberian POC 0,2 ml memberi peningkatan signifikan pada berat basah akar, berat basah total, berat kering akar, berat kering tajuk, berat kering total, sementara POC 0,4 ml memberi peningkatan signifikan pada jumlah daun, berat kering tajuk, berat kering total. Namun, pemberian POC tidak berpengaruh pada kadar klorofil, kadar karotenoid, kadar vitamin C, dan kadar zat besi.

**Kata kunci:** *Brassica rapa*, pupuk anorganik, pupuk organik

## THE EFFECT OF ORGANIC AND INORGANIC FERTILIZERS ON THE GROWTH OF NAPA CABBAGE (*Brassica rapa* L.)

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### ABSTRACT

Population growth poses challenges to food availability. One solution to improve food security and self-reliance is through the utilization of backyard land, particularly in urban areas. The main constraint in cities is limited land, which can be overcome with *polybag* cultivation techniques. One suitable crop for cultivation is Chinese cabbage (*Brassica rapa*). However, plant productivity in *polybags* is often low due to nutrient limitations. A proper combination of fertilization between inorganic (NPK) and organic fertilizers (Liquid Organic Fertilizer (LOF)) is needed to maintain soil conditions and plant health in *polybag* cultivation. Therefore, the objective of this study was to determine the optimal composition of organic and inorganic fertilizers for white cabbage plants and to assess their effects on plant growth and yield. This study was designed using a Complete Randomized Block Design (CRBD) with four types of fertilizer combinations, each with five replications. The treatments with include: F0 = NPK (control), F1 = NPK + LOF 1 ml, F2: NPK + LOF 1 ml, F3: NPK + LOF 2 ml, F4: NPK + LOF 4 ml. The parameters observed were plant height, number of leaves, fresh weight, dry weight, chlorophyll content, carotenoid content, vitamin C content, and iron content. The results showed that the application of LOF 0.2 ml significantly increased fresh root weight, total fresh weight, dry root weight, dry shoot weight, and total dry weight, while LOF 0.4 ml significantly increased the number of leaves, dry shoot weight, and total dry weight. However, the application of LOF did not affect chlorophyll content, carotenoid content, vitamin C content, and iron content.

**Keywords:** *Brassica rapa*, inorganic fertilizers, organic fertilizers