

**EFEKTIVITAS NPK ORGANIK DAN PEMBERIAN CACING TANAH
SEBAGAI PENGGANTI NPK ANORGANIK TERHADAP
PERTUMBUHAN TANAMAN PADI (*Oryza sativa* L.) PADA TANAH
REGOSOL**
*Effect of Organic Fertilizers and Earthworms as a Substitute for Synthetic
Fertilizers on Growth of Rice Crops in Regosol Soil*

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ABSTRACT

Study aims to determine the effect of synthetic fertilizer and the administration of earthworms as a substitute for synthetic fertilizer in rice plants. This research has been implemented at Experimental area of Faculty of Agriculture, University Muhammadiyah of Yogyakarta in February until June 2018. The experiment was conducted using a single factor experiment design with compiled in Completely Randomized Design (CRD) and 7 treatment i.e. : P0 (100% synthetic fertilizer), P1 (75% synthetic fertilizer + 25% organic fertilizer and earthworms), P2 (50% synthetic fertilizer + 50% organic fertilizer and earthworms), P3 (25% synthetic fertilizer + 75% organic fertilizer and earthworms), P4 (100% organic fertilizer and earthworms), P5 (100% organic fertilizer without earthworms) and P6 (just regosol soil without anything). Observation variables were carried out on vegetative growth in the form of plant height, number of tillers, number of panicles per clump, root length, fresh and dry weight of roots and fresh and dry weight of shoots and yield variables of rice in the form of number of grains per clump, grain weight per clump, weight of 1000 seeds, the yield of dry grain harvested and the results of dry grain are milled. The results showed that 50% synthetic fertilizer + 50% organic fertilizer and earthworms gave significant effect on vegetative growth like height, tillers, weight and dry of shoots and the harvest reaches until 7,2 ton/h.

Keywords : Soil enhancer, organic soil, decomposer, nutrient.

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh NPK Organik serta pemberian cacing tanah sebagai pengganti NPK anorganik pada tanaman padi. Penelitian ini telah dilakukan pada bulan Februari sampai Juni 2018 di lahan Percobaan Fakultas Pertanian Universitas Muhammadiyah Yogyakarta. Penelitian dilaksanakan, menggunakan rancangan percobaan faktor tunggal yang disusun secara Rancangan Acak Lengkap (RAL) dengan 7 perlakuan. Perlakuan-perlakuan yang diberikan yaitu P0 (100% NPK Anorganik), P1 (75% NPK Anorganik+25% NPK Organik dan cacing tanah), P2 (50% NPK Anorganik+50% NPK Organik dan cacing tanah), P3 (25% NPK Anorganik+75% NPK Organik dan cacing tanah), P4 (100% NPK Organik dan cacing tanah), P5 (100% NPK Organik tanpa cacing tanah) dan P6 (hanya tanah regosol). Variabel pengamatan dilakukan terhadap pertumbuhan vegetatif berupa tinggi tanaman, jumlah anakan, jumlah malai per rumpun, panjang akar, bobot kering akar serta bobot segar dan kering tajuk serta variabel hasil tanaman padi berupa jumlah gabah per rumpun, bobot gabah per rumpun, bobot 1000 biji, hasil gabah kering panen dan hasil gabah kering giling. Hasil pengamatan menunjukkan bahwa pemberian 50% NPK Anorganik+50% NPK Organik dan cacing tanah memberikan efek pada pertumbuhan vegetatif tanaman seperti tinggi tanaman, jumlah anakan, jumlah malai per rumpun, bobot segar dan kering tajuk dan hasil gabah kering giling mencapai 7,2 ton per hektar.

Kata kunci : Pembenh Tanah, Bahan Organik, Dekomposer, Unsur Hara.