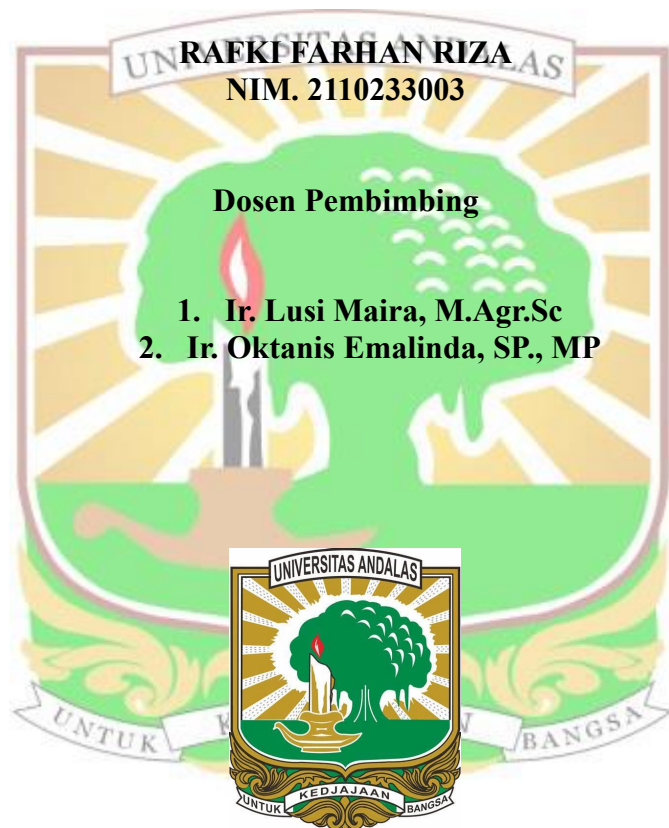


**PENGARUH APLIKASI PUPUK ORGANIK CAIR LIMBAH
IKAN TERHADAP BEBERAPA SIFAT KIMIA REGOSOL DAN
PRODUKSI TANAMAN TOMAT (*Solanum lycopersicum L.*)**

SKRIPSI

Oleh :



**FAKULTAS PERTANIAN
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PENGARUH APLIKASI PUPUK ORGANIK CAIR LIMBAH IKAN TERHADAP BEBERAPA SIFAT KIMIA REGOSOL DAN PRODUKSI TANAMAN TOMAT (*solanum lycopersicum L.*)

ABSTRAK

Regosol memiliki sifat fisik yang kurang subur dengan kandungan bahan organik dan hara makro yang rendah, sehingga memerlukan upaya perbaikan melalui penambahan bahan organik. Salah satu alternatifnya adalah penggunaan pupuk organik cair (POC) berbahan dasar limbah ikan yang kaya akan unsur N, P, dan K. Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi pupuk organik cair limbah ikan terhadap beberapa sifat kimia Regosol dan produksi tanaman tomat (*Solanum lycopersicum L.*). Penelitian dilaksanakan di Rumah Kaca Fakultas Pertanian Universitas Andalas menggunakan Rancangan Acak Lengkap (RAL) dengan lima perlakuan konsentrasi POC limbah ikan (0%, 0,35%, 0,7%, 1,05%, dan 1,4%) dan tiga ulangan. Parameter yang diamati meliputi pH tanah, N-total, P-tersedia, K-dd, dan C-organik, serta parameter tanaman berupa tinggi tanaman, bobot buah segar, bobot basah, dan kering batang tambah daun. Hasil penelitian menunjukkan bahwa pemberian POC limbah ikan dapat memperbaiki beberapa sifat kimia tanah, terutama pada konsentrasi 1,4% dengan nilai pH 5,61; N-total 0,07%; P-tersedia 6,53 ppm; K-dd 0,31 me/100g; dan C-organik 0,64%. Pemberian POC juga meningkatkan pertumbuhan vegetatif tanaman tomat dengan tinggi tanaman 95,6 cm, bobot buah 106,81 g, serta bobot kering batang tambah daun 18,21 g, meskipun belum mencapai deskripsi varietas AFN TC 01. Dapat disimpulkan bahwa aplikasi POC limbah ikan mampu memperbaiki sifat kimia Regosol dan meningkatkan pertumbuhan tanaman tomat, namun konsentrasi optimal masih perlu dikaji lebih lanjut untuk memperoleh hasil produksi yang maksimal.

Kata kunci: Limbah ikan, pupuk organik cair, regosol, sifat kimia tanah, tomat.

THE EFFECT OF LIQUID ORGANIC FERTILIZER FROM FISH WASTE ON SEVERAL CHEMICAL PROPERTIES OF REGOSOL AND THE YIELD OF TOMATO (*solanum lycopersicum L.*)

ABSTRACT

Regosol is characterized by low fertility due to limited organic matter and macronutrient content. It requires improvement, for example through organic amendments. One potential alternative is the use of liquid organic fertilizer (LOF) made from fish waste, which is rich in nitrogen, phosphorus, and potassium. This study was aimed to evaluate the effect of fish waste liquid organic fertilizer on several chemical properties of Regosol and the yield of tomato plants (*Solanum lycopersicum L.*). The research consisted of 5 concentrations of LOF (0% ;0.35% ; 0.7% ;1.05% ; and 1.4%) and three replications. The experimental units were allocated based on Completely Randomized Design (CRD) in glasshouse. Observed parameters included soil pH, total N, available P, exchangeable K, and organic C, as well as plant height, fresh fruit weight, stem plus leaf fresh weight, and dry weight. The results showed that the application of fish waste LOF improved several soil chemical properties, especially at the 1.4% concentration indicated by pH was 5.61, total N was 0.07%, available P was 6.53 ppm, exchangeable K was 0.31 cmol/100g, and organic C was 0.64%. The fertilizer also increased tomato plant growth, especially crop height (95.6 cm), fruit weight (106.81 g), and dry stem-plus-leaf weight (18.21 g). However, it could not meet the AFN TC 01 varietal standard. It can be concluded that fish waste LOF application enhanced chemical properties of Regosols and tomato plant growth, but higher concentrations should be further tested to optimize production.

Keywords: *Fish waste, liquid organic fertilizer, regosol, soil chemical properties, tomato.*

