# ABSTRAK

## PENGARUH CAMPURAN POC LIMBAH BUAH DENGAN NUTRISI AB MIX TERHADAP PERTUMBUHAN BAYAM MERAH (*Alternantera Amoena* Voss*)* PADA SISTEM HIDROPONIK SAT (*Static Aerated Technique*)

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Penelitian ini bertujuan untuk mengevaluasi pengaruh campuran pupuk organik cair (POC) limbah buah dengan nutrisi AB Mix terhadap pertumbuhan bayam merah (Alternantera amoena Voss) dalam sistem hidroponik Static Aerated Technique (SAT). Latar belakang penelitian ini dilandasi oleh tingginya volume limbah buah di Provinsi Lampung serta kebutuhan akan solusi ramah lingkungan untuk pengelolaan limbah dan peningkatan produktivitas pertanian. Penelitian menggunakan Rancangan Acak Lengkap (RAL) non faktorial dengan lima perlakuan kombinasi konsentrasi POC dan AB Mix (0–100%) dan tiga ulangan. Parameter yang diamati meliputi tinggi tanaman, jumlah daun, bobot tanaman, panjang dan bobot akar, diameter batang, serta efisiensi penggunaan air. Hasil penelitian menunjukkan bahwa penggunaan AB Mix murni (100%) memberikan hasil pertumbuhan terbaik dibandingkan dengan campuran POC maupun POC murni. Penurunan efisiensi pada perlakuan dengan POC disebabkan rendahnya kandungan unsur hara makro (N, P, K) dalam POC, serta adanya endapan yang mengganggu distribusi air. Meskipun demikian, campuran POC dan AB Mix masih menunjukkan potensi sebagai alternatif nutrisi dalam budidaya hidroponik jika diformulasikan secara optimal.

**Kata kunci: pupuk organik cair, limbah buah, AB Mix, hidroponik SAT, bayam merah.**

## *ABSTRACT*

**The Effet Of Mixing Fruit Waste Poc With Ab Mix Nutrients On The Growth Of Red Spinach (*Alternantera Amoena* Voss) In The Sat (*Static Aerated Technique*) Hydroponic System**

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This study aims to evaluate the effect of a mixture of liquid organic fertilizer (POC) from fruit waste with AB Mix nutrients on the growth of red spinach (Alternantera amoena Voss) in a Static Aerated Technique (SAT) hydroponic system. The background of this study is based on the high volume of fruit waste in Lampung Province and the need for environmentally friendly solutions for waste management and increasing agricultural productivity. The study used a non-factorial Completely Randomized Design (CRD) with five treatments of POC and AB Mix concentration combinations (0–100%) and three replications. The parameters observed included plant height, number of leaves, plant weight, root length and weight, stem diameter, and water use efficiency. The results showed that the use of pure AB Mix (100%) gave the best growth results compared to the POC mixture or pure POC. The decrease in efficiency in the treatment with POC was due to the low content of macro nutrients (N, P, K) in POC, as well as the presence of sediment that interferes with water distribution. However, the mixture of POC and AB Mix still shows potential as an alternative nutrient in hydroponic cultivation if formulated optimally.

**Keywords:** liquid organic fertilizer, fruit waste, AB Mix, SAT hydroponics, red spinach.