

PENGARUH KOMBINASI LARUTAN HARA DAN PUPUK ORGANIK CAIR URIN KELINCI TERHADAP PERTUMBUHAN PAKCOY (*Brassica rapa L.*) PADA TEKNIK BUDIDAYA HIDROPONIK SISTEM WICK

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INTISARI

Pakcoy (*Brassica rapa L.*) salah satu sayur bergizi yang diminati dan mengalami lonjakan permintaan tanpa diimbangi produktivitasnya akibat keterbatasan lahan pertanian. Teknik budidaya hidroponik sistem Wick dapat menjadi solusi peningkatan produktivitas pakcoy. Larutan nutrisi hidroponik menjadi faktor keberhasilan budidaya tersebut. Larutan nutrisi AB mix yang sulit dijangkau karena mahal dan berdampak buruk terhadap tanaman dapat dikombinasikan dengan pupuk organik cair urin kelinci untuk menyediakan unsur hara esensial bagi tanaman. Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi AB mix dengan POC urin kelinci terhadap pertumbuhan tanaman pakcoy dan mengetahui kombinasi efisien sehingga dapat memberikan informasi komposisi efektif penggunaan kombinasi larutan nutrisi tersebut. Penelitian dilakukan di *Green house* Fakultas Biologi, Laboratorium Fisiologi tumbuhan, dan Laboratorium FALITMA. Penelitian menggunakan Rancangan Acak Lengkap, dengan 8 perlakuan, dan 3 ulangan. Perlakuan aplikasi nutrisi yaitu A1 P0= AB mix 100% +0 mL/L POC urin kelinci, A1P1= AB mix 100% + 1 mL/L POC urin kelinci, A1P2 = AB mix 100%+2 mL/L POC urin kelinci, A1P3= AB mix 100% +3 mL POC urin kelinci, A2P0= AB mix 75%+0 mL POC urin kelinci, A2P1= AB mix 75%+1 mL/L POC urin kelinci, A2P2= AB mix 75%+2 mL/L POC urin kelinci, dan A2P3= AB mix 75%+3 mL/L POC urin kelinci. Hasil terbaik pada parameter pertumbuhan meliputi tinggi tanaman ($27,41 \pm 1,44$ cm), jumlah daun ($17,33 \pm 0,95$ helai), luas daun ($632,89 \pm 228,20$ cm²), berat basah tajuk dan akar ($61,88 \pm 13,42$ gram dan $1,648 \pm 0,374$ gram), serta berat kering tajuk dan akar ($3,132 \pm 0,614$ gram dan $0,101 \pm 0,021$) didapati pada perlakuan A1P3. Sementara kandungan Klorofil a ($0,140 \pm 0,018$ mg/g), klorofil b ($0,071 \pm 0,016$ mg/g), klorofil total ($0,21 \pm 0,035$ mg/g) hasil terbaik pada perlakuan A2P3, serta kandungan Vitamin C ($89,52 \pm 41,36$ mg/100g). Kandungan hara dengan penambahan POC urin kelinci turut menambah unsur hara esensial yang dibutuhkan dalam pertumbuhan tanaman yang pada pemanfaatannya dipengaruhi oleh proses metabolisme, kemampuan penyerapan, air, dan cahaya matahari.

Kata kunci : Hidroponik, Pakcoy, Pertumbuhan, POC Urin Kelinci, Unsur hara.

EFFECT OF NUTRIENT SOLUTION AND RABBIT URINE LIQUID ORGANIC FERTILIZER ON GROWTH OF PAKCOY (*Brassica rapa* L.) IN HYDROPONIC TECHNIQUE OF WICK SYSTEM

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ABSTRACT

Pakcoy (*Brassica rapa* L.) is one of the most popular nutritious vegetables and has experienced a surge in demand without being matched by its productivity due to limited agricultural land. The Wick system hydroponic cultivation technique can be a solution to increase pakcoy productivity. The hydroponic nutrient solution is a factor in the success of the cultivation. AB mix nutrient solution which is difficult to reach because it is expensive and has a negative impact on plants can be combined with rabbit urine liquid organic fertilizer to provide essential nutrients for plants. This study aims to determine the effect of the combination of AB mix with POC rabbit urine on the growth of pakcoy plants and to find out the most efficient combination so that it can provide information on the effective composition of the combination of nutrient solutions. The research was conducted at the Greenhouse of the Faculty of Biology, Laboratory of Plant Physiology and Falitma Laboratory. Completely randomized design, 8 treatments, and 3 replications. The nutritional application treatments were A1P0 = AB mix 100% + 0 mL/L rabbit urine LOF, A1P1 = AB mix 100% + 1 mL/L rabbit urine LOF, A1P2 = AB mix 100% + 2 mL/L rabbit urine LOF, A1P3 = AB mix 100% + 3 mL rabbit urine LOF, A2P0 = AB mix 75% + 0 mL rabbit urine LOF, A2P1 = AB mix 75% + 1 mL/L POC rabbit urine, A2P2 = AB mix 75% + 2 mL/L rabbit urine LOF, and A2P3 = AB mix 75% + 3 mL/L rabbit urine LOF. The best results on growth parameters include plant height (27.41 ± 1.44 cm), number of leaves (17.33 ± 0.95), leaf area (632.89 ± 228.20 cm²), crown and root wet weight (61.88 ± 13.42 grams and 1.648 ± 0.374 grams), as well as shoot and root dry weight (3.132 ± 0.614 grams and 0.101 ± 0.021) were found in the A1P3 treatment. While the content of chlorophyll a (0.140 ± 0.018 mg/g), chlorophyll b (0.071 ± 0.016 mg/g), total chlorophyll (0.21 ± 0.035 mg/g) the best results in treatment A2P3, and vitamin C content (89.52 ± 41.36 mg/100gr). The nutrient content with the addition of LOF rabbit urine also adds to the essential nutrients needed in plant growth whose utilization is influenced by metabolic processes, absorption ability, water, and sunlight.

Keywords : Growth, Hydroponics, Nutrient, Pakcoy, Rabbit urine LOF.