APLIKASI BIONUTRIEN S-367 DAN S-267 SERTA PENGARUHNYA TERHADAP HASIL PANEN TANAMAN JERUK SIAM (*Citrus nobilis*)

SKRIPSI

Diajukan untuk memenuhi salah satu syarat memperoleh gelar sarjana Sains pada Program Studi Kimia

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ABSTRAK

Peningkatan produktivitas tanaman jeruk dapat ditingkatkan dengan pemberian makronutrisi nitrogen, fosfor, dan kalium yang optimal. Bionutrien S-367 merupakan salah satu pupuk organik cair yang memiliki kandungan N sebesar 0,084 % , P sebesar 0,018% dan K sebesar 0,118%. Bionutrien S-367 merupakan pengembangan dari bionutrien S-267 yang diharapkan dapat memberikan produktivitas tanaman jeruk lebih optimal. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh aplikasi bionutrien S-367 dan S-267 terhadap pertumbuhan panjang lebar daun, kadar NPK pada daun, kadar vitamin C, dan massa hasil panen buah jeruk. Tahapan penelitian meliputi aplikasi bionutrien S-367 dan S-267 dilakukan dengan dosis 5 mL/L, pengamatan pertumbuhan panjang dan lebar daun, analisis kadar N menggunakan metode kjehdal, analisis fosfor menggunakan metode spektrofotometer UV-Vis, analisis kadar kalium menggunakan AAS, dan analisis kadar vitamin C dengan titrasi iodometri. Hasil penelitian menunjukkan bionutrien S-367 meningkatkan panjang dan lebar pada daun kecil, sedang, dan besar dengan rata-rata sebesar 4,56; 1,86; 6,43; 2,97; 8,32; dan 4,30 cm. Jumlah bunga, buah, dan massa hasil panen pada kelompok bionutrien S-367 juga meningkat dengan rata-rata sebesar 6,87 bunga, 18,70 buah, dan 25,62 kg. Selain itu, bionutrien S-367 dapat meningkatkan kadar nitrogen dan fosfor dengan rata-rata kadarnya masing-masing 3,01% dan 0,19%, sedangkan rata-rata kadar kalium tertinggi diperoleh pada kelompok kontrol positif sebesar 1,36% yang kemudian diikuti kelompok bionutrien S-367 dan S-267 masing-masing sebesar 1,27 % dan 1,10%. Kadar vitamin C yang diperoleh pada kelompok kontrol positif, bionutrien S-367, dan S-267 masing-masing sebesar 46,77 mg/100 gr, 43,6 mg/100 gr, dan 42,02 mg/100 gr.

Kata kunci : bionutrien S-267, bionutrien S-367, fosfor, kalium, nitrogen, tanaman jeruk, vitamin C

ABSTRACT

Increased productivity of citrus plants can be improved by providing optimal nitrogen, phosphorus, and potassium macronutrients. Bionutrient S-367 is a liquid organic fertilizer which has an N content of 0.084%, P of 0.018% and K of 0.118%. Bionutrient S-367 is a development of S-267 bionutrient which is expected to provide optimal productivity of citrus plants. The purpose of this study was to determine the effect of S-367 and S-267 bionutrient applications on leaf length growth, NPK content in leaves, vitamin C content, and orange fruit yield mass. Stages of research include application of bionutrients S-367 and S-267 performed at a dose of 5 mL / L, observation of leaf length and width growth, analysis of N levels using the kjehdal method, phosphorus analysis using the UV-Vis spectrophotometer method, analysis of potassium levels using AAS, and analysis of vitamin C levels by iodometric titration. The results showed bionutrient S-367 increased the length and width of small, medium and large leaves with an average of 4.56; 1.86; 6.43; 2.97; 8.32; and 4.30 cm. The number of flowers, fruit, and mass yields in the S-367 bionutrient group also increased with an average of 6.87 flowers, 18.70 fruits, and 25.62 kg. In addition, bionutrient S-367 can increase nitrogen and phosphorus levels with an average level of 3.01% and 0.19% respectively, while the highest average potassium levels were obtained in the positive control group by 1.36% which then followed by S-367 and S-267 bionutrient groups respectively by 1.27% and 1.10%. Vitamin C levels obtained in the positive control group, bionutrient S-367, and S-267 were 46.77 mg / 100 gr, 43.6 mg / 100 gr, and 42.02 mg / 100 gr, respectively.

Keywords : bionutrient S-267, bionutrient S-367, phosphorus, potassium, nitrogen, citrus plants, vitamin C

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