

## ABSTRAK

### PENGARUH PEMBERIAN EKSTRAK TAUGE DAN ATONIK TERHADAP PERTUMBUHAN CABAI RAWIT (*Capsicum frutescens* L.)

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Cabai rawit (*Capsicum frutescens* L.) termasuk familia Solanaceae yang memiliki rasa pedas serta memiliki tingkat permintaan yang tinggi di Indonesia. Ketersediaan cabai belum sebanding dengan permintaan cabai rawit yang terus meningkat, sehingga produksinya perlu ditingkatkan. Peningkatan produktivitas tanaman dapat dilakukan dengan pemupukan baik pupuk organik berupa ekstrak tauge (*Vigna radiata* L.) dan Zat Pengatur Tumbuh (ZPT) berupa atonik. Tujuan penelitian ini untuk mengetahui konsentrasi ekstrak tauge yang terbaik pengaruh kombinasi perlakuan ekstrak tauge dan atonik terhadap pertumbuhan vegetatif tanaman cabai rawit, kombinasi konsentrasi perlakuan ekstrak tauge dan atonik yang paling efektif terhadap pertumbuhan tanaman cabai rawit, dan interaksi antara kombinasi perlakuan ekstrak tauge dan atonik terhadap pertumbuhan vegetatif tanaman cabai rawit. Dilaksanakan pada bulan Februari sampai April 2024 di Laboratorium Botani, FMIPA, Universitas Lampung. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) faktorial. Faktor pertama pemberian ekstrak tauge dengan 3 taraf konsentrasi yaitu 0%, 5%, dan 10%. Faktor kedua pemberian larutan atonik dengan 2 taraf konsentrasi yaitu 0% dan 10%, pengulangan sebanyak 5 kali, sehingga didapat 30 satuan percobaan. Parameter yang diamati yaitu tinggi tanaman (cm), panjang akar (cm), kadar klorofil, visualisasi daun, bobot segar (gr), bobot kering (gr), dan kadar air relatif (gr). Data yang diperoleh disajikan dalam bentuk kualitatif berupa dokumentasi foto dan data kuantitatif yang dianalisis menggunakan *Analysis of variance* (ANOVA) dan uji lanjut dengan uji Tukey pada taraf 5%. Hasil penelitian menunjukkan bahwa pemberian ekstrak tauge 5% + atonik 0% memberikan pengaruh yang lebih baik terhadap tinggi, panjang akar, bobot segar, dan bobot kering cabai rawit. Pemberian ekstrak tauge 0% + atonik 10% memberikan efek lebih baik pada kadar air relatif. Interaksi antara pemberian ekstrak tauge dan atonik terhadap pertumbuhan vegetatif tanaman cabai rawit terutama pada parameter bobot kering, tinggi tanaman, bobot segar, kadar air relatif.

**Kata kunci:** *Capsicum frutescens* L., Ekstrak Tauge, Atonik, Zat Pengatur Tumbuh, pertumbuhan

## **ABSTRACT**

### **THE EFFECT OF GIVING BEAN SPROUT AND ATONIK EXTRACTS ON THE GROWTH OF CHILI PEPPERS (*Capsicum frutescens* L.)**

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*Chili peppers (*Capsicum frutescens* L.) are part of the Solanaceae family, known for their spicy flavor and are highly sought after in Indonesia. The supply of chili peppers does not currently match the rising demand for cayenne pepper, necessitating an increase in production. Plant productivity can be enhanced by using organic fertilizers such as bean sprout extract (*Vigna radiata* L.) and plant growth regulators (PGRs) like Atonik. This study aimed to identify the ideal concentration of bean sprout extract, the impact of combining bean sprout extract with atonic treatment on the vegetative growth of chili plants, the most efficient combination of concentrations of both treatments for chili plant growth, and the interaction effects between the combination of bean sprout extract and atonic treatment on the vegetative growth of chili plants. It took place from February to April 2024 at the Botany Laboratory, Faculty of Mathematics and Natural Sciences, University of Lampung. This research employed a fully randomized design (FRD) factorial. The initial factor was the use of bean sprout extract at three concentration levels: 0%, 5%, and 10%. The second factor involved using an atonic solution at two concentrations: 0% and 10%, with five replications, totaling 30 experimental units. The measured parameters included plant height (cm), root length (cm), chlorophyll concentration, leaf appearance, fresh weight (g), dry weight (g), and relative moisture content (g). The results collected were shown qualitatively through photographic records and quantitatively assessed using analysis of variance (ANOVA) followed by Tukey's test at a 5% significance level. The findings indicated that using a 5% bean sprout extract combined with 0% atonic resulted in improved height, root length, fresh weight, and dry weight, of cayenne pepper. The application of 0% bean sprout extract + 10% atonic had a better effect on relative water content. The interaction between the application of bean sprout extract and atonic on the vegetative growth of chili plants was mainly observed in the parameters of dry weight, plant height, fresh weight, and relative water content.*

**Keywords:** *Capsicum frutescens* L., Bean Sprout Extract, Atonic, Plant Growth Regulator, Growth