

ABSTRAK

UJI EFEKTIVITAS EKSTRAK SEGAR DAUN WALISONGO (*Schefflera arboricola*) (Hayata) Merr. SEBAGAI BIOHERBISIDA DALAM PENGENDALIAN GULMA

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Gulma bersaing memperebutkan sumber daya seperti air, cahaya, dan unsur hara, serta dapat menghasilkan senyawa alelopatik yang menghambat pertumbuhan tanaman budidaya. Kondisi tersebut menyebabkan gulma menjadi salah satu faktor utama penurunan produktivitas tanaman budidaya. Pengendalian gulma umumnya dilakukan menggunakan herbisida sintetis. Penggunaan herbisida sintetis terus menerus menimbulkan resistensi gulma dan akumulasi residu kimia, sehingga diperlukan alternatif yang ramah lingkungan. Penelitian ini bertujuan menguji efektivitas ekstrak segar daun walisongo (*Schefflera arboricola*) dalam menghambat pertumbuhan gulma serta menentukan konsentrasi yang paling efektif. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan lima perlakuan: K- (kontrol air), K+ (glifosat 0,5%), P1 (20%), P2 (40%), dan P3 (60%). Parameter yang diamati meliputi jumlah gulma, tinggi gulma, gejala klorosis, berat basah, berat kering, dan analisis vegetasi. Data dianalisis menggunakan anova dan dilanjutkan dengan Uji Tukey pada taraf 5%. Hasil penelitian menunjukkan bahwa ekstrak segar daun walisongo berpotensi sebagai bioherbisida terhadap gulma daun lebar yang ditunjukkan oleh gejala klorosis. Namun, secara umum efektivitasnya masih terbatas karena tidak memberikan pengaruh nyata terhadap jumlah dan tinggi gulma, sedangkan gulma daun sempit ekstrak segar daun walisongo hanya berpengaruh nyata terhadap tinggi gulma. Konsentrasi 60% ekstrak segar daun walisongo menunjukkan kecenderungan paling efektif dalam menekan biomassa gulma meskipun masih lebih rendah dibandingkan glifosat 0,5%.

Kata kunci: alelopati, bioherbisida, ekstrak daun walisongo, dan gulma

ABSTRACT

EFFECTIVENESS TEST OF FRESH LEAF EXTRACT FROM WALISONGO (*Schefflera arboricola*) (Hayata) Merr. AS A BIOHERBICIDE IN WEED CONTROL

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Weeds compete for resources such as water, light, and nutrients, and can produce allelopathic compounds that inhibit the growth of cultivated plants. These conditions make weeds one of the main factors contributing to the decline in productivity of cultivated plants. Weed control is generally carried out using synthetic herbicides. The continuous use of synthetic herbicides leads to weed resistance and the accumulation of chemical residues, making environmentally friendly alternatives necessary. This study aims to test the effectiveness of fresh leaf extracts from walisongo (*Schefflera arboricola*) in inhibiting weed growth and to determine the most effective concentration. This study employed a Completely Randomized Design (CRD) with five treatments: K- (water control), K+ (0.5% glyphosate), P1 (20%), P2 (40%), and P3 (60%). The observed parameters included weed count, weed height, chlorosis symptoms, fresh weight, dry weight, and vegetation analysis. Data were analyzed using anova and followed by Tukey's test at the 5% level. The results of the study indicate that fresh Walisongo leaf extract has potential as a bioherbicide against broadleaf weeds, as evidenced by chlorosis symptoms. However, overall its effectiveness remains limited as it did not have a significant effect on weed abundance and height, whereas for narrow-leaved weeds, the fresh Walisongo leaf extract only had a significant effect on weed height. A 60% concentration of fresh Walisongo leaf extract showed the most effective trend in suppressing weed biomass, although it was still lower compared to 0.5% glyphosate.

Keywords: allelopathy, bioherbicides, walisongo leaf extract, and weeds