

ABSTRAK

EFEKTIVITAS EKSTRAK DAUN KERAI PAYUNG (*Filicium decipiens*) DAN MAHONI (*Swietenia macrophylla*) TERHADAP PENGENDALIAN GULMA ALANG-ALANG (*Imperata cylindrica*)

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Alang-alang (*Imperata cylindrica*) merupakan gulma yang sangat mengganggu produktivitas lahan budidaya tanaman karena kemampuan tumbuhnya yang cepat dan sistem perakaran yang kuat. Pengendalian gulma merupakan upaya untuk mengontrol atau memberantas gulma yang dapat menghambat pertumbuhan tanaman lain. Penggunaan herbisida sintesis dalam pengendalian gulma secara terus-menerus menimbulkan risiko pencemaran lingkungan dan resistensi gulma, sehingga diperlukan alternatif pengendalian yang lebih berkelanjutan, seperti penggunaan bioherbisida berbasis tanaman. Penelitian ini bertujuan untuk menilai potensi ekstrak daun kerai payung (*Filicium decipiens*) dan daun mahoni (*Swietenia mahagoni*) dalam menghambat pertumbuhan alang-alang. Penelitian dilaksanakan di rumah kaca Fakultas Pertanian Universitas Lampung menggunakan Rancangan Acak Lengkap (RAL) satu faktor dengan lima perlakuan, yaitu kontrol (tanpa ekstrak), ekstrak daun kerai payung konsentrasi 25% dan 50%, serta ekstrak daun mahoni konsentrasi 25% dan 50%, masing-masing dengan lima ulangan. Parameter yang diamati meliputi diameter dan panjang akar, bobot basah dan kering akar, bobot basah dan kering daun, perubahan warna daun, dan persentase hidup tanaman. Hasil penelitian menunjukkan bahwa perlakuan ekstrak kerai payung dan mahoni efektif terhadap beberapa parameter pertumbuhan alang-alang, terutama pada konsentrasi 50% yang menunjukkan efektivitas tertinggi dalam menekan pertumbuhan vegetatif dan meningkatkan kematian tanaman. Sebaliknya, konsentrasi 25% tidak menunjukkan efektivitas yang konsisten, bahkan cenderung meningkatkan bobot daun.

Kata kunci: Alelopati, Herbisida, Hutan produksi, Metabolit sekunder

ABSTRACT

EFFECTIVENESS Of *Filicium decipiens* LEAF EXTRACT AND *Swietenia macrophylla* In CONTROLLING *Imperata cylindrica*

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Imperata cylindrica was a weed that greatly interferes with the productivity of cultivated land due to its rapid growth and strong root system. Weed control was an effort to control or eradicated weeds that can inhibit the growth of other plants. The continuous use of synthetic herbicides in weed control posed risks of environmental pollution and weed resistance. Therefore, more sustainable control alternatives are needed, such as the use of plant-based bioherbicides. This study aimed to evaluate the potential of *Filicium decipiens* leaf and *Swietenia mahagoni* leaf extracts in inhibiting the growth of *I. cylindrica*. The study was conducted in the greenhouse of the Faculty of Agriculture, University of Lampung, using a completely randomized design (CRD) with one factor and five treatments, namely control (without extract), *F. decipiens* leaf extract at concentrations of 25% and 50%, and *S. mahagoni* leaf extract at concentrations of 25% and 50%, each with five replicated. The parameters observed included root diameter and length, wet and dry root weight, wet and dry leaf weight, leaf color change, and plant survival rate. The results showed that treatment with *F. decipiens* and *S. mahagoni* extracts was effectuated on several parameters of alang-alang growth, especially at a concentration of 50%, which showed the highest effectiveness in suppressing vegetative growth and increasing plant mortality. Conversely, a concentration of 25% did not show consistent effectiveness and even tended to increase leaf weight.

Keywords: Allelopathy, Herbicide, Production forest, Secondary metabolites