ABSTRAK

EFIKASI DAN UJI SIFAT CAMPURAN HERBISIDA SAFLUFENACIL DAN TRIFLUDIMOXAZIN TERHADAP GULMA *Ageratum conyzoides, Digitaria ciliaris,* DAN *Cyperus kyllingia*

Oleh

DWI CAHYANI

Pencampuran herbisida yaitu menggabungkan dua atau lebih herbisida dilakukan untuk mengurangi risiko resistensi, meningkatkan efektivitas, serta memperluas spektrum pengendalian. Penelitian ini bertujuan untuk mengetahui efikasi herbisida saflufenacil, trifludimoxazin, dan campurannya serta mengetahui sifat campuran herbisida saflufenacil dan trifludimoxazin. Penelitian dilaksanakan di Rumah Plastik, Kecamatan Natar, Kabupaten Lampung Selatan, pada bulan April - Mei 2025. Perlakuan disusun dengan Rancangan Acak Kelompok (RAK) faktor tunggal. Perlakuan terdiri dari 3 jenis herbisida dengan 6 taraf dosis yaitu herbisida saflufenacil (0, 25, 50, 100, 200, dan 400 g/ha), trifludimoxazin (0, 12,5, 25, 50, 100, dan 200 g/ha) dan campurannya (0, 37,5, 75, 150, 300, dan 600 g/ha). Perlakuan diterapkan pada 3 jenis gulma yaitu *Ageratum conyzoides*, *Digitaria ciliaris*, dan *Cyperus kyllingia* sehingga diperoleh 54 kombinasi perlakuan yang diulang sebanyak 6 kali. Analisis sifat campuran menggunakan metode *Multiplicative Survival Model* karena mekanisme kerja berbeda. Hasil penelitian menunjukkan bahwa (1) Herbisida saflufenacil hanya efektif mengendalikan gulma *Ageratum conyzoides* (25-400 g/ha). Herbisida trifludimoxazin efektif mengendalikan gulma *Ageratum conyzoides* (12,5-200 g/ha), *Digitaria ciliaris* (200 g/ha), dan *Cyperus kyllingia* (50-200 g/ha). Herbisida campuran saflufenacil+trifludimoxazin efektif mengendalikan gulma *Ageratum conyzoides* (37,5-600 g/ha), *Digitaria ciliaris* (75-600 g/ha), dan *Cyperus kyllingia* (300-600 g/ha). (2) Diperoleh nilai LD_{50} harapan 83,36 lebih besar dari LD_{50} perlakuan 67,33 dan ko-toksisitas sebesar 1,24 (>1), sehingga pencampuran bersifat sinergis.

Kata kunci: saflufenacil, trifludimoxazin, campuran herbisida, $LD_{50,}$ *Multiplicative Survival Model*

ABSTRACT

EFFICACY AND MIXTURE CHARACTERISTICS OF SAFLUFENACIL AND TRIFLUDIMOXAZIN HERBICIDES AGAINST WEEDS *Ageratum conyzoides, Digitaria ciliaris,* AND *Cyperus kyllingia*

By

DWI CAHYANI

Herbicide mixing combines two or more herbicides to reduce resistance, increase effectiveness, and expand control spectrum. This study aimed to determine the efficacy of the herbicides saflufenacil, trifludimoxazin, and their mixture, as well as to examine the mixture characteristics of saflufenacil and trifludimoxazin herbicides. The experiment was conducted in a Plastic House in Natar District, South Lampung Regency, from April - May 2025. The treatments were arranged in a single-factor Randomized Block Design (RBD). The treatments consisted of 3 types of herbicides with 6 dosage levels: saflufenacil (0, 25, 50, 100, 200, and 400 g/ha), trifludimoxazin (0, 12.5, 25, 50, 100, and 200 g/ha), and their mixture (0, 37.5, 75, 150, 300, and 600 g/ha). Treatments were applied to 3 weed species: *Ageratum conyzoides*, *Digitaria ciliaris*, and *Cyperus kyllingia*, resulting in 54 treatment combinations, each replicated 6 times. The interaction of the herbicide mixture was analyzed using the Multiplicative Survival Model, as the two herbicides have different modes of action. The results showed that: (1) Herbicide saflufenacil was only effective in controlling *Ageratum conyzoides* (25-400 g/ha). Herbicide trifludimoxazin was effective in controlling *Ageratum conyzoides* (12.5-200 g/ha), *Digitaria ciliaris* (200 g/ha), and *Cyperus kyllingia* (50-200 g/ha). The mixture of saflufenacil+trifludimoxazin effectively controlled *Ageratum conyzoides* (37.5-600 g/ha), *Digitaria ciliaris* (75-600 g/ha), and *Cyperus kyllingia* (300-600 g/ha). (2) The expected LD_{50} value 83.36 was higher than the observed LD_{50} value 67.33, with a co-toxicity coefficient of 1.24 (>1), indicating that the mixture exhibited a synergistic effect.

Keywords: saflufenacil, trifludimoxazin, herbicide mixture, LD_{50}, Multiplicative Survival Model