

## ABSTRAK

### EFIKASI HERBISIDA TRIFLUDIMOXAZIN 500 g/l TERHADAP PENGENDALIAN GULMA PADA PERKEBUNAN KELAPA SAWIT (*Elaeis guineensis* Jacq.) TANAMAN MENGHASILKAN

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Kelapa sawit merupakan tanaman perkebunan yang banyak dibudidayakan di Indonesia. Keberadaan gulma pada perkebunan kelapa sawit dapat menurunkan produktivitas tanaman, karena dapat bersaing dengan tanaman budidaya untuk memperoleh sarana tumbuh. Oleh karena itu, perlu dilakukan pengendalian gulma. Pengendalian gulma pada lahan kelapa sawit menghasilkan dapat dilakukan secara kimiawi menggunakan herbisida berbahan aktif trifludimoxazin. Penelitian bertujuan untuk mengetahui dosis herbisida trifludimoxazin yang efektif untuk mengendalikan pertumbuhan gulma, mengetahui perubahan komposisi gulma setelah dilakukan aplikasi herbisida trifludimoxazin, dan mengetahui apakah terjadi fitotoksisitas pada tanaman kelapa sawit menghasilkan setelah aplikasi herbisida trifludimoxazin. Penelitian dilaksanakan di kebun kelapa sawit milik petani di Desa Muara Putih, Kecamatan Natar, Kabupaten Lampung Selatan, dan Laboratorium Gulma, Fakultas Pertanian, Universitas Lampung, Bandar Lampung pada bulan Mei hingga Juli 2024. Penelitian dilaksanakan menggunakan rancangan acak kelompok (RAK) dengan 6 perlakuan dan 4 ulangan yaitu taraf dosis herbisida trifludimoxazin (18,75; 25; 31,25; dan 37,5 g/ha), penyiangan mekanis, dan kontrol (tanpa pengendalian). Homogenitas ragam diuji dengan uji Bartlett, aditivitas data diuji dengan uji Tukey, jika asumsi terpenuhi data dianalisis ragam dan perbedaan nilai tengah perlakuan diuji dengan Uji Beda Nyata Terkecil (BNT) taraf 5%. Herbisida trifludimoxazin dosis 31,25 dan 37,5 efektif mengendalikan gulma total, dosis 18,75 – 37,5 g/ha gulma golongan daun lebar, gulma dominan *Ottochloa nodosa*, *Asystasia gangetica*, *Ageratum conyzoides* dan *Synedrella nodiflora*, dosis 25 – 37,5 g/ha gulma golongan rumput dan dosis 37,5 g/ha gulma golongan teki, gulma dominan *Axonopus compressus* dan *Cyperus kyllingia* hingga 8 MSA. Herbisida trifludimoxazin dosis 18,75 – 37,5 g/ha tidak menyebabkan terjadinya perubahan komposisi gulma pada

piringan tanaman kelapa sawit menghasilkan (TM). Aplikasi herbisida trifludimoxazin dosis 18,75 – 37,5 g/ha pada piringan kelapa sawit menghasilkan (TM) tidak menyebabkan terjadinya fitotoksisitas.

Kata kunci: gulma, herbisida, trifludimoxazin, kelapa sawit

## ABSTRACT

### EFFICACY OF HERBICIDE TRIFLUDIMOXAZIN 500 G/L FOR WEED CONTROL IN MATURE OIL PALM PLANTATIONS (*Elaeis guineensis* Jacq.)

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Oil palm is a plantation crop that is widely cultivated in Indonesia. The presence of weeds in oil palm plantations can reduce plant productivity, as they compete with the cultivated crops for growth resources. Therefore, weed control is necessary. Weed control in oil palm plantations can be carried out chemically using herbicides with the active ingredient trifludimoxazin. This study aims to determine the effective dose of trifludimoxazin herbicide to control weed growth, examine changes in weed composition after the application of trifludimoxazin herbicide, and investigate whether phytotoxicity occurs in oil palm plants after the application of trifludimoxazin herbicide. The study was conducted at an oil palm plantation owned by farmers in Muara Putih Village, Natar District, South Lampung Regency, and at the Weed Laboratory, Faculty of Agriculture, University of Lampung, Bandar Lampung, from May to July 2024. The study used a randomized block design (RBD) with 6 treatments and 4 replications, including various doses of trifludimoxazin herbicide ((18,75; 25; 31,25; and 37,5 g/ha), mechanical weeding, and a control (no weed control). Homogeneity of variance was tested using Bartlett's test, data additivity was tested with Tukey's test, and if assumptions were met, analysis of variance was performed, with differences in treatment means tested using the Least Significant Difference (LSD) at a 5% level. Trifludimoxazin herbicide at doses of 31.25 and 37.5 g/ha effectively controlled total weeds. Doses of 18,75 – 37,5 g/ha controlled broadleaf weeds, including dominant weeds such as *Ottochloa nodosa*, *Asystasia gangetica*, *Ageratum conyzoides*, and *Synedrella nodiflora*, doses of 25 – 37,5 g/ha controlled grass-type weeds, and a dose of 37,5 g/ha controlled sedge-type weeds, with dominant species like *Axonopus compressus* and *Cyperus kyllingia*, up to 8 weeks after application (WAA). Doses of 18,75 – 37,5 g/ha of trifludimoxazin herbicide did not cause changes in weed composition around the

oil palm plant base (TM). Additionally, applying trifludimoxazin herbicide at doses of 18,75 – 37,5 g/ha on the oil palm base (TM) did not cause phytotoxicity.

Keywords: weeds, herbicide, trifludimoxazin, oil palm