ABSTRACT

Weeds are unwanted plants that can reduce the yield and quality of cultivated crops, including oil palm. One weed of particular concern in oil palm plantations is Senggani (*Miconia crenata*), as it is a resistant weed that requires control measures. The use of herbicides such as glyphosate and paraquat is the primary strategy for controlling senggani weeds due to their effectiveness in damaging weed tissues through the transport system and disrupting photosynthesis.This research aims to determine and compare the effectiveness of glyphosate and paraquat herbicides in controlling senggani weeds and to analyze the use of both on senggani weeds. This research was conducted in Bathupat Timur, Muara Satu District, Lhokseumawe City, and the Plant Pest and Disease Laboratory of the Faculty of Agriculture, Malikussaleh University, from January to March 2025. This research used a non-factorial randomized block design (RAK). The factors were glyphosate herbicide, which consisted of four levels: R0 (0 g/ha), R1 (712 g/ha), R2 (1,424 g/ha), and R3 (2,136 g/ha), and the paraquat herbicide factor, which consists of four levels: C0 (0 g/ha), C1 (290 g/ha), C2 (580 g/ha), and C3 (870 g/ha). The results of the research showed that the use of glyphosate herbicide had a significant effect on senggani weeds. The highest percentage of toxicity was obtained at a dose of 2.136 g/ha, reaching 100%. The use of paraquat herbicide has a significant effect on senggani weeds. The percentage of toxicity causing death was observed at all applied treatment doses, even at the lowest dose of 290 g/ha.

Keywords: glyphosate, herbicides, intoxication, paraquat, weeds.