ABSTRAK

Weeds are unwanted plants that grow among cultivated crops or in plantation areas such as oil palm and rubber, as they can reduce crop yields and interfere with the growth of main crops by competing for nutrients, water, and sunlight. One of the weeds commonly found in oil palm plantations is goosegrass (*Eleusine indica*). Herbicides that can be used to control goosegrass include glyphosate and paraquat. The purpose of this study was to determine the esponse of goosegrass to the application of glyphosate and paraquat herbicides. This research was conducted in the ASEAN Aceh Fertilizer Complex field, Dewantara Subdistrict, North Aceh Regency, and in the laboratory of the Faculty of Agriculture, Malikussaleh University, from December 2024 to February 2025. This study used a Non-Factorial Randomized Block Design (RAK) with five replications. Glyphosate herbicide was applied at doses of 0 g/ha, 720 g/ha, 1,440 g/ha, and 2,160 g/ha. Paraquat herbicide was applied at doses of 0 g/ha, 552 g/ha, 1,104 g/ha, and 1,656 g/ha. The goosegrass samples observed in this study were collected from the plantation area of PT Perkebunan Nusantara IV Regional VI Cot Girek, Cot Girek Subdistrict, North Aceh Regency. The results showed that the application of glyphosate and paraquat herbicides had an effective impact on controlling goosegrass (*Eleusine indica*), with higher doses providing more optimal results. The application of different herbicide doses led to a reduction in weed height, number of leaves, number of stem branches, and dry weight of the weed. The optimal application doses for controlling goosegrass were 2,160 g/ha for glyphosate and 1,656 g/ha for paraquat.

Keywords: Goosegrass, glyphosate, palm oil, paraquat