ABSTRACT

Rice flatsedge (*Cyperus iria* L.) is one of the dominant weeds in rice cultivation that can reduce plant growth and yield through competition for nutrients, water, light, and growing space. Chemical weed control using herbicides is considered an effective and efficient method for suppressing weed growth. This study aimed to determine the effectiveness of paraquat and bispyribac-sodium herbicides and to identify the appropriate dosage for controlling the growth of yellow flatsedge (*Cyperus iria* L.). The research was conducted at the Screen House and Plant Pest and Disease Laboratory, Faculty of Agriculture, Universitas Malikussaleh, from December 2025 to January 2026. The experiment was arranged using a Randomized Block Design (RBD) with two separate trials. The first trial evaluated paraquat herbicide at doses of 0, 69, 276, 552, and 828 g ha^{-1}, while the second trial evaluated bispyribac-sodium herbicide at doses of 0, 3,86, 15,45, 20,6, and 25,75 g ha^{-1}. The observed parameters included weed mortality percentage, weed height, number of leaves, number of tillers, stem diameter, and weed dry weight. The results showed that paraquat and bispyribac-sodium herbicides had highly significant effects on weed mortality percentage, weed height, number of leaves, number of tillers, and dry weight of rice flatsedge. Paraquat at doses of 69–828 g ha^{-1} caused up to 100% weed mortality at 35 days after application (DAA), while bispyribac-sodium at doses of 3,86–25,75 g ha^{-1} also resulted in 100% weed mortality at 35 DAA. Both herbicides effectively suppressed the growth of rice flatsedge, as indicated by reductions in weed height, leaf number, tiller number, and dry weight compared with the untreated control. The lowest tested doses were sufficient to provide optimal weed control.

Keywords: *Cyperus iria* L., bispyribac-sodium, paraquat, rice flatsedge, rice, weed control