

ABSTRACT

The presence of barnyardgrass (*Echinochloa crus-galli*) is a major limiting factor in lowland rice cultivation due to its high competitiveness for nutrients, water, light, and growing space. Chemical weed control using herbicides is widely applied because it is considered effective and efficient. This study aims to evaluate the growth response of *E. crus-galli* to the application of paraquat and bispyribac-sodium herbicides and to determine the most effective doses for its control. The theoretical framework was based on weed competition theory, mechanisms of contact and systemic herbicides, and the biological characteristics of *E. crus-galli*. The experiment was conducted using a non-factorial Randomized Block Design with two separate trials, each consisting of five dosage levels and five replications. Data were collected through observations of weed injury percentage, plant height, number of leaves, number of tillers, and dry weight. The results showed that paraquat at doses of 2–3 L ha⁻¹ and bispyribac-sodium at a dose of 250 mL ha⁻¹ provided the most effective weed control, as indicated by high injury percentages and significant reductions in all weed growth parameters. In conclusion, both herbicides were effective in controlling *E. crus-galli* when applied at optimal doses.

Keywords: Bispyribac-sodium, *Echinochloa crus-galli*, herbicide, paraquat, rice weed