EVALUATION OF IMAZETHAPYR AGAINST GRASSY WEEDS IN MUNGBEAN

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Weeds are the major biological threat for crop production and due to limited options in controlling, weed emergence simultaneously with crop growth has become a critical in Sri Lanka. Especially in legumes, fast growing weeds suppress the early growth of legume seedlings resulting non-compensatory yield loss. Current regulatory control of glyphosate had opened up avenues for contemporary herbicides. The Imazethapyr 10% Solution (SL) is a newly introduced herbicide for Mungbean in Sri Lanka. This field study evaluated the bio-efficacy and phytotoxicity of Imazethapyr 10% SL against grassy weeds in mungbean. The experiment was conducted during *Maha* cropping season 2018/19 at Research Unit of Faculty of Agriculture, Rajarata University of Sri Lanka. The experiment was laid out on a split plot design with fourteen treatment combinations replicated thrice. Main plot factor was the time of application and sub plot factor was the herbicide concentration. Time of application had two levels aspre-emergence and post-emergence (14 Days After Sowing (DAS)). Herbicide concentrations were Imazethapyr at 50 gha^{-1}, 62.5 gha^{-1}, 75 gha^{-1}, 100 gha^{-1}, 125 gha^{-1} along with a weed free treatment and an un-weeded treatment. Weed biomass at 20 days after sowing was significantly low in Imazethapyr @ 125 gha^{-1}, however the chemical control always resulted a lower weed biomass than un-weeded control. No significant weed biomass differences ($p>0.05$) were observed between pre-emergence and post-emergence in 20 DAS. Plant biomass at flowering (45 DAS) was significantly ($p<0.05$) high with higher concentration of the Imazethapyr 10% SL. Post-emergence application showed significantly ($p<0.05$) higher plant biomass than pre-emergence application. Grassy weeds were less abundant; however, even with the chemical at higher concentration *Cleome viscose* and *Cyprus rotundus* were abundant, probably showing their resistant to Imazethapyr 10% SL. Post emergence application of Imazethapyr @ 125 gha^{-1}, 14 (DAS) of Mungbean was found to be effective in controlling most of the grasses and broadleaves.

Key words: Biomass, Herbicide, Imazethapyr 10% SL, Mungbean, Weeds