Current Herbicides Use Practices and Weeds Associated with Rice Yield Losses in Hambantota District of Sri Lanka

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ABSTRACT

Weeds are recognized as major biological constraints that hinder the attainment of optimal rice productivity. This study examined the current herbicide use pattern, most abundant weeds and yield losses in the Hambantota district of Sri Lanka. Survey was conducted using randomly selected 250 farmers in *Yala* 2016 and *Yala* 2017 seasons. Weed abundance was determining dusing 1 m^2 quadrant sampling at each site. Two plots (farmer practice and weed free) of 25 m^2 were marked out in 36 farmer fields to estimate yield loss. Weeds dominance pattern has been reinforced by the herbicide usage practices. Tank mixing of different herbicides has become more popular practice among rice farmers (87%) in Hambantota district. More than 98% of the herbicides mixtures were comprised with Carfentrazone-ethyl 240 g/1EC. Poor efficacy of herbicides accounted for weed species abundance; *Isachne globosa, Cyperus iria, Ischaemum rugosum* and *Echinochloa crus-galli* were most abundant. Weed density of 50 weeds/m^2 accounted for the 38% rice yield loss. Yield of rice was significantly influenced by herbicides use practices. This finding could serve as baseline information for future research and development on weed management rice fields of Sri Lanka.

Key words: Herbicide resistance, Shift in weed flora, Tank mixtures, Weed abundance, Yield loss

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