

**EFFECTIVENESS OF WEED MANAGEMENT TECHNIQUES  
COMMONLY ADOPTED BY RICE FARMERS IN ANURADHAPURA  
DISTRICT**

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Rice is the most important cereal crop in Sri Lanka, occupies 34% of the total rice cultivated land area, and *Anuradhapura* is a major rice cultivating district. Weeds is the major biotic constraint affecting rice yield. Though, several weed control methods are available, almost all the farmers in *Anuradhapura* district are using chemicals to control weeds in their paddy fields. Field experiments were carried out at *Puliyankulama* and *Kahatagasdigiliya* in *Anuradhapura* during *Maha* 2019/2020 to check the success level of farmers' weed management techniques. Five treatments were arranged in Randomized Complete Block Design (RCBD) in two replicates at each location using 15 x 6 m plot per replicate namely, T<sub>1</sub>- Pretilachlor 300g/l EC, T<sub>2</sub> - Florpyrauxifen-benzyl 25g / l EC, T<sub>3</sub> - MCPA 600g / SL and fenoxaprop-p-ethyl 75g/l EW, T<sub>4</sub> - Control (Hand weeding/Zero weeds), T<sub>5</sub> - Control (Weed Growth Uninterrupted) using Bg300 rice variety. Weed density, Relative density (RD) of major weed species and weed dry weight and growth parameters of rice were measured at different growth stages of rice plant. The yield of rice was measured at the time of harvesting. Statistical data analysis resulted that, weed density from the lowest to the highest varied as T<sub>4</sub><T<sub>2</sub><T<sub>1</sub>=T<sub>3</sub><T<sub>5</sub>. Overall, the weed densities were lower in *Kahatagasdigiliya* than *Puliyankulama*. The weed dry matter content from the lowest to the highest varied as T<sub>4</sub><T<sub>2</sub><T<sub>1</sub><T<sub>3</sub><T<sub>5</sub>. The highest plant height, straw dry matter content and tiller number was recorded in T<sub>1</sub>, while, the lowest values was recorded from T<sub>5</sub> in both locations. Relative leaf chlorophyll content was not significantly different among the treatments ( $P<0.05$ ). The yield of T<sub>1</sub> (6.3 tha<sup>-1</sup>), was significantly higher than T<sub>2</sub> (3.8 tha<sup>-1</sup>), T<sub>3</sub> (3.7 tha<sup>-1</sup>), T<sub>4</sub> (4.4 tha<sup>-1</sup>) and T<sub>5</sub> (2.1 tha<sup>-1</sup>). T<sub>1</sub> recorded the highest yield although, vegetatively propagated weeds were prominent in it. T<sub>2</sub> recorded the lowest weed density but, final yield has affected negatively. *Cyperus iria* and *Cyperus difformis* were not controlled by MCPA 600 g/SL at recommended dosage during this experiment. So that, Pretilachlor 300 g/l EC was the best weed control treatment that recorded the highest rice yield.

**Key words:** *Anuradhapura* district, Rice yield, Weed control, Weed density