

## WEEDY RICE COMPETITION ON CULTIVATED RICE (*Oryza sativa* L.) FOR N, P AND K FERTILIZERS

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Weedy rice becomes a serious threat to quality and quantity of rice production in Sri Lanka. A pot experiment was conducted to investigate the impact of weedy rice competition on cultivated rice for N, P and K fertilizers in a net house at RRDI, Batalagoda. A two factor factorial experiment with sixteen treatments in three replicates was established in a CRD design. Two cultivated rice varieties (Bg 352 and Bg 358) and two weedy rice biotypes (*Kurunegala* and *Matara*) were assessed for growth, yield component, yield and relative recovery efficiencies of N, P and K fertilizers with and without fertilizer.

The results showed that, a significant reduction of tiller number, leaf chlorophyll content, flag leaf area and total biomass of cultivated rice due to weedy rice competition, irrespective of fertilizer application. The number of panicles per plant, filled grain percentage and 1000 grain weight were significantly decreased due to competition of weedy rice under fertilized and non- fertilized situations. Compared to non-competitive conditions of cultivated varieties, the relative recovery efficiencies were decreased in N by 23% to 15% and 12%, P by 50% to 37% and 25% and K by 64% to 25% and 25% due to weedy rice competition of *Kurunegala* and *Matara* respectively. The interaction between weedy rice competition and N, P and K fertilization has a pronounced influence on cultivated rice by reducing 45% (Bg 352) and 60% (Bg 358) of rice yields indicating Bg 352 performs better than Bg 358 under the weedy rice competition. The weedy rice competition under non-fertilized conditions was very strong and in favor of weedy rice.

**Key words:** Competition, Fertilizer, Recovery efficiency, Weedy rice