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ABSTRACTS

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Weed Management by New Generation Herbicides in Low Land Transplanted Paddy

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Heavy weed infestation is a serious problem in low land paddy. Severe crop-weed competition during the critical period (30-45 DAT) causes at least 30-50% yield reduction. Therefore, field experiment was conducted during the rainy seasons of 2002 at the Mondouri Farm (23° N, 89° E) of BCKV, West Bengal to study the effect of new generation paddy herbicides for their weed controlling ability in low land paddy (IET 4786). Chlorimuron ethyl (25% WP) and Butachlor were applied at 3 days after transplanting (DAT); whereas, Clefoxydim and Quinclorac were applied at 15 DAT. The most dominant weed flora were Cyperus iria, Fimbristylis miliacea, Ludwigia parviflora and Echinochloa crusgalli. Among the different doses of Chlorimuron ethyl, 8 g a.i. ha-1 showed better weed control efficiency (WCE) than the lower doses in all dates of observation. Comparing all the treatments, Quinclorac at 300 g a.i. ha-1 gave the highest WCE of 76.4, 76.7 and 77.6% at 30, 60 and 90 DAT respectively. The age old rice herbicide, Butachlor gave the lowest WCE (34.5 to 45.7%). Grain yield of paddy for all the treatments was found to be directly correlated with the values of WCE. The highest grain yield of paddy (3.74 t ha-1) was obtained with Quinclorac at 300 g a.i. ha-1 and the lowest grain yield (1.88 t ha-1) was recorded in the unweeded control treatment. Quinclorac at 150-300 g a.i. ha-1 gave 86.2 to 98.9 % more grain yield than the unweeded control and Quinclorac at 300 g a.i. ha-1 yielded 13% more grain as compared to the conventional two hand weeding. Among all the herbicides tested, Quinclorac at 300 g a.i. ha-1 applied at 15 DAT proved to be the effective method of weed control in the low land paddy culture in West Bengal