

Category	: International Rice Research Conference
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Keyword 1	: Weed management
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Keyword 3	:
Title of Entry	: Effective method to control weedy rice in direct-seeded rice culture
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Select only one type of presentation	: 15 minute oral presentation

Abstract : Weedy rice is known as the most related-weeds to the cultivated rice. Since weedy rice and cultivated rice have similar physiological and morphological traits, it cannot be identified at the critical stages of weeding. Currently no selective herbicides are available for weedy rice control, and therefore it is difficult to manage it. In Malaysia, implementation of direct-seeding method makes the weedy rice management become harder, thereby leading to high yield loss. The present study aimed to control weedy rice in direct-seeded rice culture by applying oxadiazon as a pre-emergence herbicide. Several glasshouse studies were conducted to assess inhibitory effects and phytotoxicity of oxadiazon on weedy rice germination and rice growth, respectively, under different soil-water regimes and different herbicide application timing. The results showed that oxadiazon provided higher inhibition on the emergence of both dry and pre-germinated weedy rice seeds under standing water condition compared to those observed under saturated water condition. On the other hand, rice sown at ten days after oxadiazon treatment under standing water condition showed less phytotoxic effect. A pilot study was subsequently conducted at two different rice fields with a history of high weedy rice infestation. Plots that treated with oxadiazon, reduced weedy rice density by 82 to 92% when compared to those of untreated plots. Besides, rice yield in plots received oxadiazon treatment was increased by 73 to 86% as compared to those found in untreated plots. This result clearly indicated that application of oxadiazon under standing water condition at ten days before rice sowing can reduce weedy rice population effectively without affecting rice growth and yield.

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