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Weed Control in Broadcast Rice: Effectiveness of Fenoxaprop-p-ethyl and 2,4-d Mixture

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Abstract

Weed control in broadcast rice was experimented in split-split plot design. Two herbicides spraying at 10 days and 20 days after seeding were main plots. Irrigating 3, 6 and 9 days after herbicide treatments were sub plots and 3 rates of fenoxaprop-p-ethyl and 2,4-D mixture 3+100, 6+200 and 9+300 g(a.i./a.e.)/rai were sub sub plots. Hand weeding and non weeding treatments were also included as the control treatments. The results indicated that the use of herbicides at 10 days after seeding significantly controlled broadleaf weeds and sedge compared to the 20 days treatment. Irrigation at 3 and 6 days after herbicide spraying showed better effect in weed control than at 9 days after herbicide spraying. Fenoxaprop-p-ethyl and 2,4-D mixture at 6+200 (a.i./a.e.)/rai and 9+300 (a.i./a.e.)/rai were more effective than the rate at 3+100 (a.i./a.e.)/rai. The phytotoxicity was found in the cases of fenoxaprop-p-ethyl and 2,4-D mixture at 3+100 (a.i./a.e.)/rai and 6+200 (a.i./a.e.)/rai which caused slight phytotoxicity whereas 9+300 (a.i./a.e.)/rai resulted in moderate phytotoxicity. The maximum phytotoxicity severity was found at 14 days after application. After 35 days of application the phytotoxicity seemed to have no obvious results. The results indicated that herbicides spraying at 10 days after seeding got higher yield than the case of 20 days treatment. Irrigation at 3, 6 and 9 days after spraying and the three rates of herbicides showed no significant effect on yield and yield components when compared to those from hand weeding but highly significant difference when compared to those from non weeding method.

Keywords: Broadcast rice, hand weeding, herbicide, weed control