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WEED MANAGEMENT IN JUTE BY PRE AND POST EMERGENCE HERBICIDES

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In purely rainfed situation, farmers sow jute seed hurriedly to get the benefit of sudden pre-monsoon shower it may not be possible to delay sowing one day after herbicide application which is a pre-requisite in case of Trifluralin, a pre-emergence herbicide. Moreover, there are number of post-emergence grass herbicides such as Cyhalofop butyl, Quizalofop ethyl and Fenoxaprop-p-ethyl, which showed good weed control in several broad-leaved field crops. A field experiment was conducted during 2005-06 at the main farm of CRIJAF (22.75^{0}N, 88.43^{0}E, 3.14mAMSL), Nilgunj to study the effectiveness of the sedge controlling herbicide, S-Metolachlor besides Trifluralin and available post-emergence grass herbicides for selecting the most effective and economic of weed control in jute. Among the herbicides tested, S-Metolachlor @ 0.50 kg a.i. ha^{-1} as pre-emergence application showed the highest weed control efficiency (WCE) of 75.3% at 28 DAS and 79% at 45 DAS, resulting the maximum fibre yield of 24.9 q ha^{-1} which was at par with the fibre yield obtained with two hand weeding treatment (24.2 q/ha). Application of Quizalofop ethyl and Fenoxaprop ethyl @ 0.075 kg a.i. ha^{-1} as post emergence application produced 23.2 and 23.3 q ha^{-1} of fibre respectively. In general, application of pre and post emergence herbicides reduced the soil microbial population (bacteria, fungi and actinomycetes) 7 days after application (DAA). Among the pre-emergence herbicides, Trifluralin reduced the bacterial population by 66.6% and Metolachlor reduced the population by 46.9% at 7 DAA. At 35 DAA, the microbial population started improving and reached to the normal values thereafter. Out of the post emergence herbicides tested, Quizalofop ethyl reduced the bacterial population more (64.3% than Fenoxaprop ethyl (58.1%).