

Upgraded mechanical weeder and novel herbicides for efficient weed management in jute

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Abstract

Field experiment was conducted for two consecutive years (2020-21 and 2021-22) at ICAR-Central Research Institute for Jute and Allied Fibres, Nilganj, Barrackpore, West Bengal to find best weed management practice for *olitorius* jute (cv. JRO 204) using upgraded mechanical weeders (nail weeder and single wheel jute weeder) and novel herbicide (ipfencarbazone) along with other weed management methods. It was recorded that two times manual weeding (7 and 21 DAS) produced the lowest weed dry matter at 42 DAS (32.2 g/m²) and 60 DAS (18.1 g/m²) in *tossa* jute (Table 1). However, at 42 DAS, among the herbicidal and mechanical weed management methods, the lowest weed dry matter was noted either with ipfencarbazone @120 g/ha (PE) + nail weeder at 15 DAS (44.2 g/m²) or with ipfencarbazone @120 g/ha (PE) + single wheel jute weeder at 21 DAS (48.6 g/m²). The highest *tossa* jute (cv. JRO 204) plant height (PH) at harvest (120 DAS) was recorded with two manual weeding treatments (352.4 cm). In the mechanical methods of weed management, the highest PH was recorded with nail weeder twice at 7 and 15 DAS (330.5 cm). Among the herbicidal and mechanical weed management treatments, it was observed that, ipfencarbazone @120 g/ha (PE) + nail weeder at 15 DAS produced the tallest jute plants (327.8 cm) closely followed by the plant height (PH) obtained with ipfencarbazone @120 g/ha (PE) + single wheel jute weeder at 21 DAS (325.4 cm). Like PH, similar trends were observed in case of jute basal diameter (BD) at harvest. The highest jute fibre yield was obtained with two manual weeding (36.04 q/ha). Among the herbicidal and mechanical weed management methods considered, application of ipfencarbazone @120 g/ha (PE) + nail weeder at 15 DAS produced higher fibre yield (34.22 q/ha).

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