

## Effect of Tillage Techniques on the Performance of Kharif Rice Varieties

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**Abstract :** Zero-tillage cultivation is a farming practice that reduces costs while maintaining harvests and protecting the environment. Innovative partnerships among researchers, farmers, and other actors in the agricultural value chain have enabled the adoption of zero-tillage to sow rice in the Indo-Gangetic Plains, increasing farmers' incomes, fostering more sustainable use of soil and water, and providing a platform for cropping diversification and the introduction of other resource-conserving practices. A field experiment was conducted in the farmer's field of Ausgram I Block, Burdwan, West Bengal, India under sandy loam soil with soil pH of 5.2, which is low in Nitrogen, medium in Phosphorus and Potassium. There were three techniques of tillage-T1: Zero tillage in Rice, T2: conventional tillage in Rice, T3: Rice grown with Drum seeder and three varieties namely V1: MTU 7029 V2-MTU 1010, V3: Pratikha thus making nine treatment combinations which were replicated thrice and the experiment was laid out in Factorial Randomised Block Design. Among the three varieties, rice variety MTU 7029 gave higher yield in all the tillage techniques. The highest yield was obtained under Zero tillage followed by conventional tillage. From economic analysis it was revealed that the benefit:cost ratio was higher in Zero tillage and rice cultivation by drum seeder. Zero-till is increasingly being adopted because it gives more yield at less cost, saves labour and farmer time. Farmers will be interested in this technology once they overcome their tillage biases.

**Keywords :** economics, Indo-Gangetic plain, rice, zero tillage, yield

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