



**RESEARCH ARTICLE :**

## Laboratory testing of paddy stripping header mechanism

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**SUMMARY :** Stripping is a very popular harvesting concept that continues to challenge designers. The principle of stripping, *i.e.* removing the seeds from the plant without harvesting the straw. The header loss of the stripping mechanism was greatly influenced by parameters such as crop height, peripheral speed of stripping rotor, forward speed of the machine. Test rig was developed for optimizing these parameters in the laboratory. Test rig consisted of stationary stripping mechanism and movable platform which moves in forward and reverse direction. Stationary stripping mechanism consisted of stripping rotor, stripping elements and adjustable hood. Stripping elements were made of natural rubber having two shapes as slender arrow head and spaced slender arrow head. Movable platform consisted of track, height adjustable platform and crop holders. Track (9×0.7 m) was made of M.S. angle and adjustable platform (4×0.65) m made of plywood. Crop holder (spacing 25×15 cm) with spring arrangement was used for holding crop on the platform. Separate electric motors were provided for power transmission. The experiment was designed with three peripheral speed (14, 17, 20 m/s) of stripping rotor, two forward speeds (1.65 and 2.25 km/h) of the platform and three replications. Stripping rotor height 490 mm from platform and hood height 100 mm from the center of the stripping rotor were kept constant to simulate field crop condition. Testing was done in *Rabi* season (2015) with paddy variety Ratnagiri- 1. The result of trial shows that 2.25 km/h forward speed and 20 m/s peripheral speed of stripping rotor, minimum grain loss was found as 5.56 per cent along with maximum stripping efficiency of 98.12 per cent. The slender arrow head stripping element had better performance with minimum grain loss than that of spaced slender arrow head.

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