Modification and Performance Evaluation of ANGRAU Power Weeder Developed by FIM Scheme for Paddy under SRI Cultivation

Ch Sravan kumar, B Hari Babu, S Suresh Babu, K V S Rami Reddy ,John Wesley and Aum Sarma

Department of Farm Machinery and Power, College of Agricultural Engineering, Bapatla 522 101

ABSTRACT

Weed control is a major problem in System of Rice Intensification (SRI) cultivation. The field capacity of the present available weeders is less, which involves drudgery while operating and more time in field because of to and fro motion of the weeders. ANGRAU FIM developed a power weeder, which has higher field capacity and field efficiency. However, the ANGRAU FIM developed power weeder has less working width and does not have depth control provision. To solve this problem and to increase the weeding efficiency of the ANGRAU FIM power weeder it was modified at College of Agricultural Engineering Bapatla. The field performance was evaluated and compared with the performance of a cono weeder. The field capacity of the modified power weeder was found to be 0.0349 ha h^{-1} with a field efficiency of 79.74% at an average working depth of 4.8 cm. The field capacity of the cono weeder was found to be 0.0145 ha h^{-1} with a field efficiency of 73.03% at an average working depth of 3.1cm. Weeding efficiency was 84.58% and 68.97% respectively for power weeder and cono weeder. The plant damage by power weeder and cono weeder was 3.61% and 2.03% respectively. The cost of operation of the power weeder is 42.5% more than the cost of operation of the cono weeder.

Key words : Cono weeder, Power Weeder, SRI cultivation