

# **Performance Evaluation of Power weeder, Star weeder and Wheel hoe**

**B Raj Kiran, CH Murali Krishna and R Jaya Prakash**  
College of Agricultural Engineering, Bapatla -522101, Andhra Pradesh

## **ABSTRACT**

Performance evaluation of intercultural implements such as power weeder, star weeder and wheel hoe was conducted in the Agricultural college farm, Bapatla during the year 2012-13. Three weeders were initially evaluated in the dry land planted with maize with a plot size 20 m × 10 m. Power weeder was also evaluated in the wet land (paddy field) at the plant age of 30 days which was maintained with a crop row to row spacing of 20 cm and average plant to plant spacing of 18cm. Actual field capacity, theoretical field capacity, field efficiency, weeding efficiency, plant damage and cost of operation were considered to evaluate the performance of three weeders.

Actual field capacities and theoretical field capacities of power weeder, wheel hoe and star weeder were 0.0494 ha/h, 0.022 ha/h, 0.021 ha/h and 0.060 ha/h, 0.030 ha/h, 0.026 ha/h respectively. Whereas field efficiencies of power weeder, wheel hoe and star weeder was found to be 82.33%, 73.66%, 80.76% respectively. Power weeder has more field efficiency than other two weeders. Plant damage observed for power weeder, wheel hoe and star weeder were 11.10%, 2.20%, and 1.17% respectively. Weeding efficiencies of power weeder, wheel hoe and star weeder were found as 78.4%, 74.0%, and 75.4% respectively. Power weeder has more weeding efficiency than other two weeders. Cost of operation of power weeder, wheel hoe and star weeder was Rs.2532.71/ha, Rs.1696.5/ha and Rs.1785.37/ha respectively. Operational cost is more for power weeder and less for wheel hoe, star weeder compared to power weeder. Actual field capacity, theoretical field capacity, field efficiency, weeding efficiency of power weeder in wet land were 0.0439 ha/h, 0.072 ha/h, 60.9 %, 69.65% respectively. Plant damage observed in paddy field weeding was 8.34%. Cost operation of power weeder in wet land (paddy) field is Rs.2658.20 /ha. The weeding efficiency and cost of operation were more for power weeder under wet land weeding.

**Key words :** Field capacity, Plant damage, Power weeder, Star weeder, wheel hoe.