

Development of portable knapsack power weeder

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■ **ABSTRACT** : Weed management is an ever-present challenge to crop production. Presence of weeds in general reduces crop yield by 31.5 per cent (22.7 % in *Rabi* season and 36.5 per cent in *Kharif* and summer season). Yield losses due to weeds were about 65 per cent depending on the crop, degree of weed infestation, weed species and management practices. Presently available weeder mostly run by tractor or power tiller, these are large in size, cannot work for low inter row spaced crops. To overcome these problems, portable knapsack power weeder was developed for low inter row spaced crops with width of cut was 25 cm. The main working components of power weeder were flexible drive shaft, worm gear box, rotor shaft, flanges and blades. The "L" type blade was selected having length, width and thickness of 130 mm, 30 mm and 5 mm, respectively, operating with a rotor shaft of 20 mm in diameter. Maize and chilli was tested with number of blades per flange (2, 4 and 6).

■ **KEY WORDS** : Engine, Flexible drive shaft, Worm gear box, Rotor shaft, Flanges, Blades

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