

## Performance evaluation of portable knapsack power weeder

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■ **ABSTRACT** : India is a vast country having agriculture sector as the backbone of its economy. A weed is essentially any plant which grows where it is unwanted or not required. A weed can be thought of as any plant growing in the wrong place at the wrong time and doing more harm to the farmer income. Several weeders are available which run by tractor or power tiller, these are large in size can not work for low inter row spaced crops. The portable knapsack power weeder is evaluated two different crops such as maize and chilli with each blade (2, 4 and 6 blades per flange) combination. During the evaluation field capacity, field efficiency, weeding efficiency, plant damage, fuel consumption, performance index were evaluated. Actual field capacity of weeder for maize and chilli crop with 6 blades was 0.023 ha/h and 0.025 ha/h. Field efficiency of weeder for maize and chilli crop was 61.3 per cent and 66.6. Weeding efficiency for maize and chilli crop was 89.3 per cent and 85.2 per cent. Plant damage for maize and chilli crop was 2.4 per cent and 3.30 per cent.

■ **KEY WORDS** : Knapsack power weeder, Field capacity, Field efficiency, Weeding efficiency, Plant damage, Fuel consumption, Performance index

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