

Development and evaluation of manually operated sprocket weeder

K. MANJUNATHA, SUNIL SHIRWAL SUSHILENDRA AND P. VIJAYAKUMAR

Received : 17.12.2013; Revised : 19.02.2014; Accepted : 01.03.2014

See end of the Paper for authors' affiliation

Correspondence to :

K. MANJUNATHA
Department of Farm
Machinery and Power
Engineering, College of
Agricultural Engineering,
University of Agricultural
Sciences, RAICHUR
(KARNATAKA) INDIA
Email : manjunathtech07@
gmail.com

■ **ABSTRACT** : A manually operated sprocket weeder was developed and evaluated for its performance. Various parameters such as weeding efficiency, plant damage, field capacity, draft and power input of the weeder were considered during the test. The sprocket weeder was developed by using inexpensive bicycle components. The major parts of the weeder consisted of the front portion of a bicycle namely handle bar, front axle, sprocket, wheel hub, fork and galvanized iron pipe. V-shaped blade made from hardened steel was attached to the fork with the help of U-clamp which is adjustable. The results showed that, the weeding efficiency of the sprocket weeder was found to be 94.5 % with a field capacity of 0.032 ha/h with a time saving of 84 per cent. The cost of operation was found to be Rs. 375/ha with a saving of 79.16 per cent compared to traditional method. It was also observed that, there was no plant damage while carrying out the weeding operation with the sprocket weeder.

■ **KEY WORDS** : Field capacity, Manual weeder, Plant damage, Weeding efficiency

■ **HOW TO CITE THIS PAPER** : Manjunatha, K., Sushilendra, Sunil Shirwal and Vijayakumar, P. (2014). Development and evaluation of manually operated sprocket weeder. *Internat. J. Agric. Engg.*, 7(1) : 156-159.