

Development and evaluation of bullock drawn engine operated high clearance sprayer for pigeonpea crop

■ M. VEERANGOUDA, K.V. PRAKASH, JAGJIWAN RAM AND G. NEELAKANTAYYA

Received : 16.12.2013; Revised : 08.03.2014; Accepted : 20.03.2014

See end of the Paper for authors' affiliation

Correspondence to :

M. VEERANGOUDA

Department of Farm Machinery and Power Engineering, College of Agricultural Engineering, University of Agricultural Sciences, RAICHUR (KARNATAKA) INDIA
Email : m.veerangouda@rediffmail.com

■ **ABSTRACT** : The pest and disease infection is a serious problem in pigeonpea crop during the plant growth. At present, the farmers are generally using the available manually operated knapsack and motorized sprayers. A bullock drawn engine operated high clearance sprayer was developed at the College of Agricultural Engineering, Raichur, by taking the above factors into consideration and the field trials were carried out. The experiment was conducted at research farm for spraying on pigeonpea crop using bullock drawn engine operated sprayer. This sprayer has been tested using a pair of bullock (Breed: Khillari) under physiological limits of bullocks with visual fatigue symptoms. The average field capacity of bullock drawn engine operated sprayer for spraying on pigeonpea crop was found to be 1.18 ha/h. The average draft observed was 736 N. The cost of operation worked out for spraying operation for bullock drawn engine operated sprayer for spraying on pigeonpea crop was Rs. 114.90 per ha. The physiological response of bullocks and fatigue score for spraying operation was within the limit. The bullock drawn engine operated sprayer requires the labour requirement of 12.85 man-h/ha.

■ **KEY WORDS** : Pigeonpea, Bullock drawn sprayer, High clearance, Pest attack

■ **HOW TO CITE THIS PAPER** : Veerangouda, M., Prakash, K.V., Ram, Jagjiwan and Neelakantayya, G. (2014). Development and evaluation of bullock drawn engine operated high clearance sprayer for pigeonpea crop. *Internat. J. Agric. Engg.*, 7(1) : 207-211.