

# Development of indigenous plough for ridging and inter cultural operations for sugarcane crop

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**ABSTRACT :** Sugarcane crop has been pride of Maharashtra state and plays a vital role in agricultural economy of the state. Maharashtra state had established enviable position in the Indian sugar industry by contributing 35 per cent of total sugar production (8.5 Million Tonnes of sugar). In spite of this in sugarcane crop system traditional methods of weeding and earthing up is labour as well as time consuming and cannot be done by tractor drawn implements because of restriction for their movement in sugarcane row as well as less land holding capacity of Indian formers. So that, the bullock drawn ridger and inter cultivators have got popularity in the major part of the country. Also all these operations in sugarcane crop are carried out using bullock drawn implements. Keeping above points in view the study was undertaken entitled, with view to fabricate and develop indigenous plough for ridging and inter-cultural operations for sugarcane crops. For the study the popular Kirloskar iron plough was selected as it is widely used in the region. This selected plough was developed such that it has furrowing and weeding tools with view to number of operations at a single pass of implement. It can also used for ridging, earthing up and weeding operation. The testing of developed indigenous plough was carried out in Kagal Tahsil of Kolhapur district for sugarcane crop by following RNAM standard test codes. The power required for ridging, earthing up and weeding operations was 0.91 hp, 1.26 hp and 1.38 hp, respectively. The effective field capacity was obtained about 0.18 ha/hr. 0.21 ha/hr. and 0.24 ha/hr. for ridging, earthing- up and weeding operations, respectively. The field efficiency of implement was obtained about 51.55 per cent, 56.58 per cent and 51.45 per cent for ridging, earthing up and weeding operations, respectively. The cost of operation of implement was obtained as 315.28 Rs./ha, 289.34 Rs./ha and 304.10 Rs./ha for ridging, earthing up and weeding operations, respectively. In this way newly developed indigenous plough had given better results especially for doing earthing up operation. Hence, the performance of newly developed indigenous plough was found satisfactory.

**KEY WORDS :** Animal drawn, Mould board plough, Animal drawn cultivators, Animal drawn weeders, Sugarcane

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## INTRODUCTION

Sugarcane (*Saccharam officinarum*) is a most important

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