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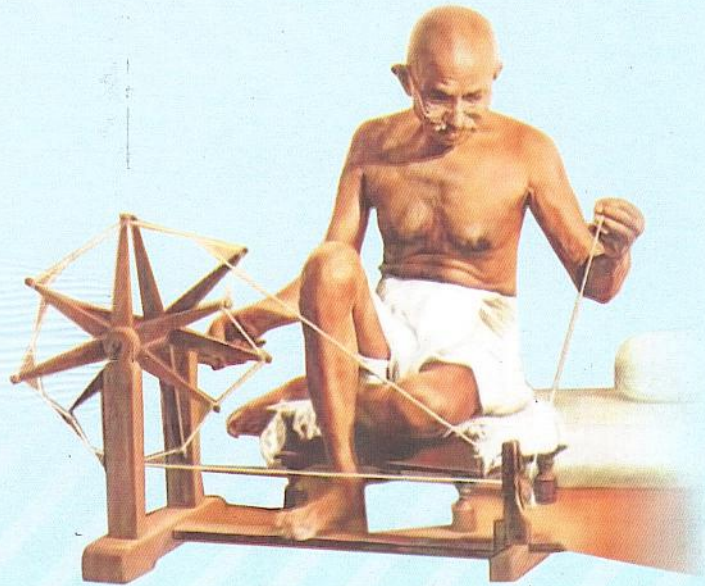
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development. So much so the empowerment of marginalized in Indian context particularly the dalits, women, tribals, children in difficult circumstances by persuing the policy of Inclusive Growth. Gandhigram Rural Institute being a premier Institution in rural development studies and research is continuously engaged in these thrust areas of economic growth with equitable and distributive social justice and also engaged in the new scheme of Unnath Bharat Abhiyan (UBA) towards creation of model village within its motto and framework of when villages develop nation develops.

This issue of Journal of Extension and Research addresses certain hard core issues at micro and macro levels and various issues in development based on contributions by eminent scholars in the concerned area of development. Moreover release of this issue of JER coincides with the visit of NAAC Peer Team to our Institute for the 3rd cycle of Accreditation. Let us all rededicate ourselves to project and promote the Institution as development partners in institution building to elevate further our grading through Re-accreditation for achieving excellence and inclusive growth.

S.GURUSAMY
Executive Editor

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Comparative Study on Field Capacity and Specific Fuel Consumption of Three Different Models of Tractors

Deepak Das, M. Sankaranarayanan and R. Udhayakumar

Abstract

A field experiment was conducted during June to July 2015 at Kibungo of Ngoma District, Eastern Province of Rwanda to evaluate the fuel consumption and work performance of three different Models of tractors of different Brake Horse Power with rotary plough and cultivator in sandy loam soil. Three soils cover conditions viz. unploughed soil, stubble soil and tilled irrigated soil surface were taken to determine the better performance of tractor-implement system and fuel economy. Mahindra 55 bhp, MF 35 bhp and TYM 30 bhp tractors were used at three speed control setting of the tractors, viz. 1/3rd, 2/3rd and full throttle positions. The tractor drawn cultivator or rotary plough are found most economical to be operated at 2/3rd speed control position. Maximum fuel consumed 4.1 l/h in tilled irrigated soil with cultivator and rotary plough 3.6l/h at 2/3rd throttle position because of increased depth of operation. Almost in all soil cover conditions, field capacity was found high in rotary plough. Fuel consumption for cultivator was found higher than rotary plough due to higher depth of ploughing.

Key words: Tillage implements- Tractor - Specific fuel consumption

Introduction

Tractor is an elementary requirement for the agricultural sector of any country. Growth of tractor population from 2009 to 2016 in Rwanda is an indicator of need, importance and use of it in Rwandan agriculture. During the last seven years the demand and use of tractor drawn machinery have increased substantially due to increased awareness about need and usefulness of tractor machinery among potential farmers, NGOs and cooperatives. Majority of tractor owners are using two implements namely cultivator and rotary plough. Even in case of tillage, tractor implement system is used in varying field conditions at different levels of load. It is desirable to have a suitable tractor implement system which is both fuel and work efficient.