

Studies on wear characteristics of selected rotavator blades

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■ **ABSTRACT** : Tillage is the most important unit and more energy consumption operation in agriculture. The most widely accepted method of tilling land is ploughing with plough and cultivators. These invert the upper soil layer, without proper mixing of soil, hence, these needs additional operations of rotavator and harrow to improve soil tilth on the ploughed land. The tractor mounted rotavator holds promise for overcoming these problems. Rotavator under dynamic loading, blades are subjected to fatigue and abrasive wear. Abrasive wear has been emerged as a serious problem in rotavator blades. It increases the down time and maintenance cost. The objective of this study was to identify the suitable material for reducing of wear of rotavator blades. For this study a preliminary survey was conducted in the region (Telangana) to know the popularity of rotavator and types of blades being used by farmers, it was found that L types of blades are more in numbers in the region with the two make of rotavators, from this study we have selected a two rotavator blades *i.e.* blade1 and blade 2 .The study revealed that there was wide variation in element composition and mechanical as well as micro-structural properties of these rotavator blades, the wear loss percentage of blade1 higher than the blade 2 and It was also found in the study blades which are selected manufactured locally are hardly at par with the standards in terms of material.

■ **KEY WORDS** : Rotavator, Abrasive wear, Tillage, Hardness, Wear loss

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