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Study of surface profile of rotary blades

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■ **ABSTRACT :** Wear of soil engaging components occurs because the materials used are normally softer than the natural abrasives in the soil. Most of blades of rotavator are manufactured locally which are hardly at par with the standards in terms of material, shape and size which affects operational life of rotary tool. So, there was a need to study wear characteristics of rotary blades so as to provide the proper blades in the rotary tools. Study was conducted in rotary soil bin in loamy soil and sandy loam soil. L-Shape blade of four different makes was mounted on the two flanges and their speed varied from 140-150 rpm. Two rollers along their stand were mounted on soil bin for compressing the soil upto 4.5 – 5.0 kg/cm^2 compaction. The width of rotary blades was measured before and after the wear test. The profile change of rotary blades can also be used to determine the wear characteristics of tillage tools. The decrease in width of blade T_1,T_2, T_3 and T_4 at starting point of blade section were 10.65%, 13.95%, 3.68% and 4.36 %, respectively in loam soil while the decrease in width of blade T_1,T_2,T_3 and T_4 at starting point of blade section were 15.10%, 17.10%, 13.50% and 18.65 %, respectively in sandy loam soil.

■ **KEY WORDS :** Rotavator, Soil bin, Loam soil, Sandy loam

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