

Prototype feasibility testing of self propelled reaper binder

A.V. Gajakos, Vinaykumar V. Saraf and V.P. Khambalkar

Received October 19, 2014 and Accepted January 3, 2015

ABSTRACT : Appropriate machinery is one of the major factors for reducing labour requirements and production costs of second crop cultivation. In this study, the self propelled reaper binder was performed and evaluated for actual field performance in experimental plot as well as farmer's field with objectives to conduct the field testing of self propelled reaper binder and to study economics of self propelled reaper. The reaper was performed in two crops *viz*: wheat and paddy crop. With reciprocating motion of cutter bar of self propelled reaper binder for wheat crop, the results showed that the average effective field capacity and field efficiency was found to be 0.36 ha/hr and 91.76 %. The average forward speed of reaper binder during test was 3.22 km/hr. The average harvesting losses were found to be 4.60 g/m² with negligible average shattering loss *i.e.* 0.93%. Also, for paddy crop, the average effective field capacity and field efficiency was found to be 0.20 ha/hr and 57.7%. The average forward speed of reaper binder during test was 2.7 km/hr. The average harvesting losses were found to be 8.03 g/m² with negligible average shattering loss *i.e.* 1.91%. During field testing of self propelled reaper binder for both crop wheat and paddy, uncut loss is nil. The performance evaluation trials indicated the suitability of machine for harvesting of wheat and paddy crop.

Key Words: Effective field capacity, field efficiency, shattering losses, uncut loss.