

SUMMARY

THE PERFORMANCE TEST OF HAMMER MILL WITH CORN COB FEEDING

By

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Corn cob has potential for cattle feed mixture material. So far, corn cob is always burnt or disposed and it could pollute environment. The use of corn cob as cattle feed mixture requires corn cob to be changed into small pieces by using a particular technology. One of the technologies is hammer mill, so that a research needs to be conducted to find out performance of hammer mill in corn cob crushing process for cattle feed mixture. Method of testing for this equipment was using 800 rpm and 1400 rpm rotation speeding treatment and 1 cm filter size. Tests were conducted in three replications and each replications used 5 kg of corn cob. This test was conducted to find out machine performance based on rotation speed, uniformity index, and produced capacity.

Milling was conducted with rotation treatments. Differences of rotation showed speed of machine rotation, 1400 rpm machine rotations will be faster than 800 rpm.

The research results derived the best corn cob milling result was in 800 rpm. In this condition, expected size of milling result (3 mm – 7 mm) could be obtained. Obtained percentage of milling result weight from second repetition with 800 rpm treatment was 41,72%.

Machine working capacity is a comparison between amount of processed material and time to use. Machine working capacity is the most important parameter in measuring machine performance, especially the time efficiency. The best machine working capacity was obtained in 800 rpm treatment with 15,62 kg/hour working capacity.

Keywords : Corn cob, Hammer mill, Capacity, Energi consumption