

Investigation of the Effect of Counter Knife Sharpness, Rotor Speed and Throughput on the Performance of a Rotary Feeding and Cutting System (RFCS)

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There has been extensive research completed in the area of biomass cutting, specifically cutting plant material. However there has been very little research completed with a focus on rotary feeding and cutting systems (RFCS). A RFCS is a hybrid cutter which employs characteristics of both a sickle type cutter and a precision type cutter. With limited data available on the factors that affect the performance of a RFCS it has been assumed that the factors that affect the cutting performance of sickle type cutter or a precision type cutter have the same influence on the performance of a RFCS. To validate these assumptions laboratory tests were conducted to investigate the effect of counter knife sharpness, rotor speed, and throughput on the specific energy required to cut barley straw.