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Performance evaluation of bullock operated rotary mode agro-processing technology: Grain polisher unit

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The bullock energy can be used in rotary mode set up for post-harvest operations like *Grain polisher*, chaff cutting, daal mill operations, flour milling, , Spice Grinding, threshing, cotton ginning, briquetting and other stationery operations. The proposed research work presents the performance evaluation of Grain polisher unit. The draft requirement varied in the range 480.2 N to 450.8 N with the mean draft as 467.1 N which was 5.14 % of weight of the paired bullocks. The pulse rate as usual decreased with duration the mean respiration rate, for bullock B1 and B2 was 25.75 and 27.50bpm, 56.75 and 54.50bpm with the body temperature as 37.9 and 38.50c at rpm of bullocks were 64 to 60 respectively. The mean rpm of the Grain polisher shaft was observed to be 395.6 the machine Blower rpm and machine screw like Auger rpm found to be 1628 and 88.33 at load condition. The output of machine gradually decreased with duration may be due to decrease in the speed of shaft of the Grain polisher. The mean output 263.3kg/h as with an electric motor was 320 kg/h. The mean power output was 0.550 kW. The operation of Grain polisher was found to be feasible considering the draft ability of Red Kandhari type bullocks. The total cost of operation of unit was calculated Rs. 90.08Rs /h with an output capacity of grader observed 0.5 hp.

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