



*SERVING FARMERS AND SAVING
FARMING – ROLE OF FARM
MECHANIZATION*

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DEPTT. OF FARM POWER &
MACHINERY*

Economics of Rotavator on Custom Hiring under paddy – wheat rotation

Particulars	Puddling	Wheat sowing
Av. Field capacity (ha/hr)	0.52	0.4
Av. Fuel consumed (l/hr)	5.0	6.5
Av.rate of hiring (Rs./ha)	1250	1750
Av. Work done on hiring (ha)	80	50
Total turn out (Rs./year)	1,00,000	87,500
Expenditure (Rs./ha)	550	850
(Rs./year)	44000	42500
Net saving (Rs./year)	56,000	45000

Total saving per year: 1,01,625

Pay back period is one season


Farmers feed back

- **Very good equipment for green manuring of Dhaincha, Moong and other crops**
- **Saves water, time, energy, labour and money**
- **Better Quality of work achieved in lesser number of operations compared to traditional practice both in dry and wet land condition.**
- **Level of field is not disturbed**
- **Used throughout the year**
- **No injury to finger during transplanting after incorporation of dhaincha with rotavator**
- **Easy to transport**
- **Incorporate nicely straw and residues of paddy, sugarcane, cotton in the soil in a single operation**





Economics of Tractor drawn zero drill on Custom Hiring



Field capacity (ha/h)	0.4
Fuel consumed (l/h)	3.5
Rate of custom hiring (Rs./ha)	900
Average Area covered By one entrepreneur(ha)	50
Average Return (Rs./year)	45,000
Cost of operation(Rs./ha)	675
Expenditure (Rs/year)	33,750
Net Saving per year (Rs/year)	11,250
price of machine (Rs.)	16,000
Pay back period:	Two year

Feed back from farmers

- Timeliness in sowing 7-8 days earlier than traditional
- Saves 60-75 liters HSD per hectare which resulted in saving of natural resources and environment
- 30-40% less infestation of weeds
- Saves irrigation water up to 10-15% during first irrigation
- Two days early and uniform germination and better plant stand than traditional
- No crust formation after rains. Hence, no effect of rains on germination
- Improvement in crop yield
- Improvement in soil structure and fertility
- No lodging of crops at the time of maturity in case of heavy rains and winds
- Machine is simple and easy to operate



Economics of Straw combine on custom hiring

Cost of machine (Rs.)	: 90,000 to 1, 20,000
Operating speed(km/h)	: 2.5
Average Field capacity(ha/h):	: 0.4
Average Fuel consumption, (l/h)	:3.5- 4.0
Labour required/ha	: 2 persons
Cost of operation (Rs./ha)	:800
Average grain recovery(kg/ha)	; 100-120
Average bhusa recovery(q/ha)	: 25.0
Average area covered (ha)	:85
Rate of custom hiring(Rs./ha)	:1250-1325
Total turn out(Rs./year)	: 1,06,250- 1,12,625
Expenditure(Rs. /ha)	: 800
(Rs. Year)	: 40,000
Net saving (Rs./year)	: 66,250-72,625
Pay back period:	: two year

Advantages of straw combine over control

- Use of tractors per year has been increased
- saving of time, money and labour.
- **Bhusa can be obtained as bi product**
- **Less fatigue than manual threshing of wheat.**
- **Machine repay its cost with in one year**
- **The tractor needs frequent service of air cleaner because of dust and bhusa during operation of straw combine.**
- Small farmers welcome the work to be get done by custom hiring.
- **The machine is liked by the farmers very much.**

Conclusion

- **Straw recovery is 70.7 per cent with good quality.**
- **The straw split was 92.36% and length of bhusa was 2.3 cm.**
- **There was an additional grain recovery of 141 kg/ha (45.8%). The cost of grain recovered is almost equal to the amount paid for hiring the machine.**
- **Straw combine is very economical and now a days it is used extensively by the farmers as the cost of bhusa rises and use of combine increases.**
- **The demand for straw combine also increase.**
- **It helps to save environmental hazards.**



Economics of High capacity multicrop thresher (Tractor operated) on Custom Hiring

Crops	Rate of custom hiring (Rs/ha)	Area covered (ha)	Total income (Rs.)
Wheat	1250	50	62,500
Raya	1250	30	37,500
Gram	1000	30	30,000
Moong	1000	50	50,000
Arhar	1000	10	10,000
Urd	1000	25	25,000
Guar	750	50	37,500
Bajra	750	50	37,500
Total		295	2,90,000
Total hrs used	800		
Expenditure	Rs. 255/h	Cost of thresher	70,000- 80,000
Total expenditure	800*255=2,04,000	Pay back period	One year
Net profit per year	86,000		




Economics of Automatic/ Semiautomatic Potato Planter

Average Area covered on custom hiring (ha) by one entrepreneur	: 60-70
Rate of custom hiring (Rs./ha)	: 1250
Earning per year (Rs.)	:75,000 – 87,500
Cost of operation(Rs./ha)	: 875
Expenditure per year(Rs.)	: 52,500 – 61, 250
Net saving per year(Rs.)	: 22,500 – 28,250
Cost of machine (Rs.)	
Semiautomatic	: 25,000
Automatic	: 40,000
Pay back period	: One year



Economics of Potato Digger



Average Area covered on custom hiring (ha) by one entrepreneur	: 40
Rate of custom hiring (Rs./ha)	: 1250
Earning per year (Rs.)	:50,000
Cost of operation(Rs./ha)	: 875
Expenditure per year(Rs.)	:35,000
Net saving (Rs. Per year)	: 15,000
Cost of machine (Rs.)	
Semiautomatic	: 25,000
Automatic	: 40,000
Pay back period	: Two year
Saving over control (%)	: 50



FLD-6 : Post Hole Digger



Performance data

Field capacity

(No. of holes /hr): 50

Cost of machine (Rs.): 40,000

Pay back period(years): one

Rate of custom hiring

(Rs. /pit of size

1.5 feet wide &3 feet depth): 15

Targeted pits are to be dug: 1000

No . Of pits dug:

2004	6050
2005	6500

Note: The farmers have been pursued to purchase this machine and adopt as custom hiring business. one farmer purchased three post hole digger and doing custom hiring business



THANKS

The image features the word "THANKS" in a large, bold, 3D font. The letters are rendered with a vertical gradient, transitioning from a bright yellow at the top to a deep orange at the bottom. The text is set against a solid black background. A horizontal line, composed of a purple upper segment and a red lower segment, passes behind the letters. The letters themselves have a slight perspective, appearing to float above a dark, shadowed base.