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Cost and Returns of Processing of Rape Seed and Mustard in Haryana

MOHINDER SINGH, V. P. LUHACH, R. K. KHATKAR AND R. C. HASIJA

Department of Statistics CCS Haryana Agricultural University
Hisar 125004, India

Abstract

On the basis of primary data collected by conducting personal interviews with the 20 selected processing units scattered in Bhiwani and Mohindergarh districts of Haryana state, it was observed that the total cost per quintal of mustard was Rs 1,806.48 whereas total fixed cost was Rs 15.29, the value of oil and oil-cake was Rs 1,452.82 and Rs 414.16 per quintal of mustard, respectively. Hence the net return was Rs 60.49 in case of oil-mills. In oil-expeller the total fixed cost per quintal of mustard was Rs 18.85 whereas the total variable cost and total cost were Rs 1,824.19 and Rs 1,843.04, respectively. The value of oil extracted per quintal of mustard was Rs 1,438.29 and for oil cake it was Rs 449.23; hence net return was Rs 44.8 per quintal. Comparatively low costs and higher returns were found in oil-mills than the oil-expellers, which indicated that, the cost of processing per quintal of mustard and plant size were inversely related. The higher rate of taxation, market fees, power supply and availability of raw material are the major constraints involved in processing.

Key words : Cost and returns, Rape seed, Mustard, Processing.

Oil seed crops occupy an important place in the farming system of India. These are highly paying crops of the dry regions. Oils and fats are the important constituent of human diet and are important source of energy. According to Indian Council of Medical Research standards, the per capita daily nutritional requirement of edible oils and fats is 18 grams, while its average availability is only 12 grams in India. (1—3). In India, the oil obtained from rapeseed and mustard accounts for two-third edible oil consumption in the country. In india, the oil is traded in kacchighani type for its traditional characteristic flavor and to some extent in refined form. The projected demand for oilseeds in India by 2020 is a round 34 million tones which is to be met by rape seed and mustard. It is estimated that about 90% of domestic production of rape seed and mustard is crushed for extracting edible oil, which is mostly traded and consumed in northern, north -eastern, eastern and central India. The recently promoted canola quality hybrid rape seed namely Hyola has a good potential as a profitable enterprise for farmers as it gives a higher yield, more oil content, health export quality oil and an assured market. Besides, the utilities of oil obtained from rape seed and mustard, the seeds, sprouts, leaves, tender plants are also useful to human health, when they are consumed as spices and vegetables. They contain selenium calcium, magnesium, iron, phosphorus, zinc, magnesium, manganese. Despite the oilseed crops account for more than 26% of the country's cropped area, its share in the gross national product is little more than four per cent. The area, production and productivity of oilseeds in India have been fluctuating even after green revolution. The demand for edible oils has grown at a faster rate than its domestic supply.

Methods

Out of main rape seed and mustard growing districts in the state Bhiwani and Mahendragarh, districts were selected purposively for the present study based on higher average area and production under rape seed and mustard for the last three years.

Five processing units from the area falling under each selected market were selected. Total 20 of processing units were selected. They were categorized into oil expellers and oil mills based on the utilization capacity. The third type of processing units known as kachi ghani was included under the category of oil expellers. The required data pertaining to processing costs incurred and returns obtained from processing of rape seed and mustard were collected by conducting personal interview with the selected oil millers

Table 1. Cost of processing of rapeseed and mustard of oil-mills (in rupees).

	Particulars	Value	Per quintal of mustard	Percentage of total cost
(A)	Total fixed cost	268335	15.29	0.84
1	Depreciation on building and machinery	96000	5.47	0.36
2	Wages for permanent labor	145200	8.27	0.46
3	Interest on fixed capital	27135	1.54	0.09
(B)	Total variable cost	31435401.56	1791.19	99.15
1	Value of mustard purchased	28186800	1640.08	88.91
2	Procurement charges	1140750	65.00	3.59
3	Power charges	320500	18.26	1.01
4	Labor charges	301120	17.16	0.95
5	Repair and maintenance	35000	1.99	0.11
6	Fuel and lubricant	210800	12.01	0.66
7	Interest on working capital	112959.56	6.44	0.35
8	Taxes paid	1127472	64.24	3.56
(C)	Total cost	31703736.56	1806.48	100
(D)	Gross returns	32765499	1866.98	
1	Main product (oil)	25496991	1452.82	
2	By product (cake)	7268508	414.16	
3	Net return	1061762.44	60.49	
(F)	Total cost per quintal of oil	4095.06		

and oil expellers. The average cost structure in processing of rape seed mustard under different category oil mills was also studied by employing tabular analysis.

Results and Discussion

Cost and Returns of Processing of Rape Seed and Mustard in Oil-Mills

Table 1 reveals the cost and returns of rapeseed and mustard processing of oil-mills. In oil-mills the total cost per quintal of mustard was Rs1,806.48 whereas the total fixed cost per quintal of mustard was Rs 15.29.The value of oil and oil cake was Rs 1452.82 and Rs 414.16 per quintal of mustard, respectively. Therefore the net return was Rs 60.49 oil-mills.

Oil-Expellers

Table 2 indicates the cost and returns of rape seed and mustard processing of oil-expellers.The total fixed cost per quintal of mustard was found to be Rs 18.85 whereas total variable cost and total cost were Rs 1,824.19 and Rs 1,843.04, respectively. The value of oil extracted per quintal of mustard was Rs 1,438.29 and for oil cake it was Rs 449.23, hence the net return was Rs 44.48 per quintal of mustard in oil-expellers.

Comparative Costs and Returns of Oil-Mills and Oil-Expellers

The total cost was found to be more (Rs 31703,736) in oil mills than the total cost in oil expeller (Rs 13822,847.02), but the total cost per quintal of mustard was less in oil mills (Rs 1,806.48) than the total cost per quintal of mustard in oil expellers (Rs 1,878.48). It shows that the cost of processing per quintal of mustard and plant size were inversely related. Same results were reported by Srinivas et al. (4).

In oil-mills the total fixed cost (Rs 268,335) was found to be 0.84% of the total cost and in oil-expellers it was (Rs 141,367.52) i. e. 1.02% of total cost. The gross returns and net returns in processing of rape seed and mustard are shown in Tables 1 to 2. The total value of oil obtained was Rs 25496,991 in oil-mills and Rs 10787,211 in oil-expeller. The total value of oil cake obtained was Rs 7268,508 and Rs 3369,210 in oil-mills and oil-expeller, respectively. The gross returns obtained were Rs 32765,499 and Rs 14156,421 in oil-mills and oil-expellers, respectively. However, the gross returns per quintal of oil produced were Rs 4,095.06 and Rs 4,210.93 in oil mills and oil expellers, respectively. Hence there existed a direct relationship between gross return and size of the unit.

Table 2. Cost of processing of rape seed and mustard of oil-expellers (in rupees).

	Particulars	Value in rupees	Per q of mustard	Percentage of total cost
(A)	Total fixed cost	141367.52	18.85	1.02
1	Depreciation on building and machinery	48000	6.40	0.35
2	Wages for permanent labor	78221	10.43	0.56
3	Interest on fixed capital	15146.52	2.02	0.11
(B)	Total variable cost	13681479.5	1824.19	98.98
1	Value of mustard purchased	12300600	1640.08	88.99
2	Procurement charges	546100	72.81	3.95
3	Power charges	146500	19.53	1.06
4	Labor charges	61120	8.15	0.44
5	Repair and maintenance	10800	1.44	0.08
6	Fuel and lubricant	77000	10.27	0.56
7	Interest on working capital	47335	6.31	0.34
8	Taxes paid	492024	65.60	3.56
(C)	Total cost (A + B)	13822847	1843.04	100
(D)	Gross returns	14156421	1887.52	
1	Main product (oil)	10787211	1438.29	
2	By product (oil cake)	3369210	449.23	
3	Net return	333574	44.48	
(E)	Total cost per quintal of oil	4210.93		

The table 2 shows that the net return obtained in oil mills was Rs 1061,662.44 and net return obtained in oil expeller was Rs 333,573.98; hence it was found that net return increased with the size of the processing of the unit.

Conclusion

It was found that the cost of processing per quintal of mustard and plant size were inversely related, and the net return was directly proportional to size of processing unit. Processing of rape seed and mustard seeds intensive working capital; thus, there is a need to provide working capital at cheaper rates, so as to promote the processing industries.

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