

## **Economics of mentha crop production in Badaun district of U.P.**

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### **Abstract**

*A study of the economics of menthol mint cultivation was carried out in Islam Nagar block of district Badaun during the year 2011-12. The economics has been worked out by estimating the costs and returns at different strata of 50 selected farmers. The total cost of production of oil per kg overall came to Rs. 782.63. It came to Rs. 711.81, 758.04 and Rs. 845.88 per kg on small, medium and large farms respectively. The return per rupees of investment came to about 1.90, 1.78 and 1.60 on small, medium and large farms respectively. The overall average return per rupee came to Rs. 1.72. The return on small farmers came highest.*

Key words: Investment, cost of production, economics,

### **Introduction**

Medicinal and aromatic plants constitute a major part of the flora, which provides raw material for use in the pharmaceuticals, cosmetics and drug industries. Even in any of the modern medicines, the basic composition is derived from medicinal plants and these have become acceptable medicines for many seasons. Mints are an aromatic perennial herbs and, it is cultivated in large area of Punjab, Haryana, Uttar Pradesh and Bihar, with maximum area in Uttar Pradesh (Khaneya *et al.*, 2005). The major districts in Uttar Pradesh where this crop is being cultivated are Badaun, Bareilly, Sahajahanpur, Pilibhit and Barabanki. Thus it is essential to know the economics such commercial crop.

The present study was conducted with following objectives:

- (i) To know the socio-economic characteristics and resource structure of the farms under study.
- (ii) To estimate cost land return on the farms under study.

### **Methodology**

The present study was conducted in Badaun district. The Islam Nagar block of Badaun was selected purposively from the existing blocks of the district since this block was having highest area under mint cultivation. At last stage mint growers were selected randomly from the selected block. The sample was comprising of 28 small, 14 medium and 13 large farmers, selected on the basis of proportion to its size. The data were collected through well structured pre-tested interview schedules by personal interview method. The data were relate to year 2011-12.

### **Results and Discussion**

#### *Socio-economics and Resource structure*

The data collected for the study were analysed in respect of average family size, literacy status, occupation, caste, family size average land holding, cropping pattern, average farm assets and economics of menthol mint production. The following table shows the socio-economic characteristics of the farmers under study.

The table no. 1 indicates that the average family size on overall farms was found to be 7.43 persons, Literacy status of the selected respondents was found to be 90.07 per cent on overall basis. Literacy rate was higher in medium farmers (91.35 per cent) and lowest in small farmers (89.20 per cent). The study also shows the respondent have agriculture as main occupation for their livelihood. 41.42, 39.63 and 13.19 per cent of the respondents belong to general caste, other backward caste and schedule caste, respectively on overall basis. The overall average holding size of the respondents under study was found to be 2.54 hectares which was 1.21 ha, 2.27 ha and 4.16 ha in small, medium and large farm size groups respectively. Area occupied by aromatic crop menthol mint on the farms under study overall was found to be 46.25 per cent of the total area. The average value of assets on the respondents was found to be Rs. 94292.66 on overall farms which came to Rs. 522528, Rs. 127620 and Rs. 217590 on small, medium and large farms respectively.

#### *Cost of menthol mint cultivation*

The following table shows the cost per hect. Of menthol cultivation.

Table 1: Socio-economic characteristics and resources structure on menthol growers under study.

Particulars	Small	Medium	Large	Overall
Average family size (No.)	7.61	7.43	7.25	7.43
Literacy status family members (%)				
Illiterates	10.80	8.65	10.34	9.93
Literates	89.20	91.35	89.66	90.07
Occupation (%)				
Agriculture	64.79	50.56	62.09	59.15
Others (Dairy + Services)	35.40	49.04	37.93	40.85
Cast composition (%)				
General	40.38	44.23	39.66	41.42
Other backward castes	47.89	36.54	34.48	39.63
Schedule castes	11.74	19.23	8.62	13.19
Average landholding (tha)	1.21	2.27	4.16	2.54
Cropping pattern in hectare (%)				
Agriculture crops (Paddy, wheat, etc.)	60.33	48.90	51.68	53.75
Aromatic crop (menthe)	39.67	51.10	48.32	46.25
Average farm assets (farm building, irrigation structure factor/equipment, distillation unit)	52528	727620	217590	94292.66

The table no. 2 indicates that the operational cost of menthol cultivation came to be Rs.37897.99 per ha on overall farms which was higher (Rs. 41880.23/ha) on small farms and lower (Rs. 37005.91/ha) on medium farms. The higher value of operational cost on small farms was due to higher cost of irrigation on the farms. The maximum portion of the operational cost was shared by human labour (34.01%) followed by machine labour (14.89%) and cost of manure and fertilizers (9.95%). The cost of human labour was higher on small farms i.e. 44.01% of the total operational cost.

The distillation charges came to be Rs. 14394.06/ha on overall farms. The fixed cost of the menthol cultivation came to be Rs. 20102.09/ha. The major portion of the fixed cost was shared by rental value of owned land (Rs. 177757.70/ha) on overall farms. The

fixed cost was higher in case of large farms (Rs. 22190.67/ha) and lowest on small farms (Rs. 10574.86/ha).

#### *Economics of menthol mint production*

The cost of cultivation and return from the menthol mint production was calculated and the data have been presented in Table 3.

Total cost of menthol mint cultivation was estimated as Rs. 58000.08/hectare on overall farms which constitute Rs. 37897.99 (65.34%) variable cost and Rs. 20102.09/ha (33.66%) fixed cost. Total cost was higher in case of large farms (Rs. 61162.35/ha) and lowest on small farms. The green production of the menthol mint was found to be 115.44 q/hectare on overall farms which was 118.33, 117.63 and 111.34 q/ha on small, medium and large farms, respectively.

Table 2: Per hectare item wise cost of Mentha cultivation (Rs./ha)

Item of cost	Small	Medium	Large	Overall
Area under crop (ha.)	0.24	0.38	0.41	0.36
Value of family labour	18697.92	8223.68	8939.02	9737.50
Value of Hired labour	4385.42	10682.89	11580.49	9988.33
Value of Machine labour	12218.75	7419.29	10139.02	8637.50
Value of seed	2135.42	2634.65	3109.76	2661.67
Value of M & Fertilizer	3222.92	6967.54	4068.29	5769.17
Interest of working cost	1219.81	1077.84	1135.10	1103.83
Variable cost (total)	41880.23	37005.91	38971.68	37897.99
Land revenue	23.32	23.71	26.27	24.43
Depreciation on fixed assets	1321.84	920.61	1118.64	1054.53
Interest on fixed cost	1586.21	1104.73	1342.37	1265.44
Rental value of owned land(Minus land revenue)	7629.31	17782.67	19703.39	17757.70
Total fixed cost	10574.86	19831.72	22190.67	20102.09
Total cost of cultivation	52455.09	56837.63	61162.35	58000.08

Table 3: Economics of the menthol mint production

Per ha item wise cost	Small	Medium	Large	Overall
Variable cost in Rs.	41880.23	37005.91	38971.68	37897.99
Total fixed cost in Rs.	10574.86	19831.72	22190.67	20102.09
Total cost in Rs.	52455.09	56837.63	61162.35	58000.08
Green Production Q/ha	118.33	117.63	111.34	115.44
Cost of production Rs./Q green product	443.28	483.18	549.32	502.41
Oil production (kg/ha)	94.79	94.08	89.02	92.50
Oil extraction charges (Rs./ha)	15018.75	14478.08	14141.46	14393.06
Total cost + oil extraction charges in Rs.	67473.84	71315.70	75555.82	72393.14
Cost of production of oil (Rs./kg)	711.81	758.04	845.88	782.63
Total income (Rs./ha)	127968.8	127006.6	120182.9	124875
Net income (Rs./ha)	60494.91	55690.87	44879.11	52481.86
Output/input ratio	1.90	1.78	1.60	1.72

The oil was extracted from the green production. The extraction charges of oil from green menthol mint came to be Rs. 14393.06/ha and the total cost including extraction cost came to Rs. 72398.14/hectare on overall farms. Study revealed that 92.50 kg oil of menthol mint was produced per hectare on overall farms which was higher (94.79 kg/ha) on small farms and lowest (89.02 kg/ha) on large farms. The cost of oil production came to be Rs. 782.63 per kg. The total income generated by the production of menthol mint oil was found to be Rs. 1,24,875.00 per hectare on overall farms which was higher in case of small farms (Rs. 1,27,968.80/ha) and lowest (Rs. 120,182.90/ha) on large farms. The net income came to be Rs. 52481.86/hectare on overall farms which was Rs. 60494.91, Rs. 55690.97 and Rs. 44879.11 on small, medium and large farms

respectively. The output-input ratio of the menthol mint cultivation came 1.72 on overall basis while it was 1.90, 1.78 and 1.60 on small, medium and large farms respectively. It indicates that small farmers got more return per rupee of investment as compared to other farms.

#### References

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