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## An economic analysis of Isabgol and its competitive crops in Malwa plateau region of Madhya Pradesh

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### Abstract

An attempt has been made in this study to assess the cost and returns of Tulsi and its competitive crops. Ratlam, Mandsaur and Neemuch districts in Malwa Plateau region of Madhya Pradesh were selected on the basis of maximum area covered by the Tulsi crop. From the selected districts, 6 blocks (2 from each district), 30 villages (5 from each block) and 45 sample farmers were selected randomly for detail investigation. The primary data pertains to the agriculture year 2014-15. For estimation cost and returns, cost concepts i.e. cost A1, A2, B1, B2, C1, C and C3 and net family labour and farm business incomes and B.C. ratio were considered. The result shows that the average family size of sample farmers was found five. As per caste wise distribution of sample respondents, majority of respondents belong to OBC category (82 percent) followed by general (9 percent), SC (7 percent) and ST (2 percent). Regarding the age and educational level it was found that more number of sample farmers belongs to the middle age group (51 percent), followed by old age (29) and young age group (20 percent) of sample farmers. It was observed that 56 percent sample farmers were educated up to primary level followed by higher secondary school (31 percent) and under graduation (13 percent) level. The cost of cultivation was estimated to be Rs. 49514, 32236.89 and 163384.13 for Isabgol, Wheat and Garlic respectively. Regarding cost of production, it was Rs. 4112.45, 978.95 and Rs. 8972.23 under Isabgol, Wheat and Garlic crop respectively. The data revealed that the net income was estimated to be Rs. 45313, 20003 and Rs. 28506 for Isabgol, Wheat and Garlic crop respectively. As far as the B.C. ratio was concerned it was estimated to be 1:1.95, 1:1.62 and 1:1.17 for Isabgol, Wheat, and Garlic crop respectively, which indicates that the Isabgol crop was more profitable than their competitive crops. On the basis of findings it is suggested that more efforts are required to motivate the farmer to include more area of Isabgol crop in the existing cropping pattern by the sample farmers than there is chance to improve economic condition of the farmers.

**Keywords:** Isabgol crop, medicinal crop, Isabgol and wheat, Isabgol and garlic crop

### Introduction

India has a rich diversity of medicinal and aromatic plants; more than 8000 species of wild plants are known to be used in India for treatment of various health disorders. Madhya Pradesh is rich in medicinal and aromatic plant, provides a significant source of income for a large number of people derive employment from the collection, processing and trade of these plants. Importance of medicinal plants is widely accepted, there is a serious lack of comprehensive information on the economically important and threatened species of Madhya Pradesh.

The different agro-climate zones of Madhya Pradesh are the most suitable for cultivation and growth of medicinal and aromatic plants. The state is a natural habitat for over 50 percent of the herbs used in pharmaceutical industry. The major plants richly found in the state include Aonla, Bael, Tulsi, Ashwagandha, Isabgol, Chandrasur, Kalmegh, shatawar, Keokand, Safed Musli, and Bach. Currently about 10 thousand farmers are involved in cultivation of medicinal plants. The production of medicinal and aromatic plants in the state in 2004-05 was 20000 tonnes and is estimated to rise to 40000 tonnes now. About 400 small herbal processing units are functional. Some primary minor forest produce cooperative societies are producing Ayurvedic medicines, nutritious foods and drinks. Contract farming, contract collection area with forest committees, setting up big processing units and collective manufacturing and branding of products are the key areas to be tapped. An attempt has been made in this study to assess the cost and return of Tulsi and its competitive crops in Malwa Plateau region of Madhya Pradesh.

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## Research Methodology

Malwa plateau region of Madhya Pradesh was selected for study purpose as this region covered more area of the Medicinal and Aromatic crops. Under Malwa Plateau region, three districts namely Ratlam (5040 hac.), Mandsaur (7885 hac.) and Neemuch (10961 hac.) were selected on the basis of maximum area covered by selected Medicinal and Aromatic crops (2014-15). After selection of districts, two blocks namely Ratlam and Jaora under Ratlam district, Mandsaur and Malhargarh under Mandsaur district and Neemuch and Jawad in Neemuch district were selected on the basis of same

criteria as selected the districts. From each selected blocks a list of villages those having the area of Tulsi crop was prepared and out of which five villages from each selected block were selected, on the basis of highest area covered by Tulsi. After selection of villages, a list of farmers those who raised Tulsi crop in commercial basis was prepared and 45 sample farmers were selected randomly.

## Results and Discussion

### General Characteristics of sample farmers

**Table 1:** Family structure and caste of sample farmers

No. of Farmers	Family Size		Total family member	Average Family Members	Caste				
	Male	Female			SC.	ST.	OBC.	Gen.	Total
45	90 (40)	134 (60)	224 (100)	5	6 (7)	1 (2)	37 (82)	4 (9)	45 (100)

The size of family was one of the important factor which influencing the cultivation of Medicinal Plants. It was found that total number of family members was 224 and 40 and 60 percent of male and female to the total number of family member was observed. The average family size was found

five. As per caste wise distribution of sample respondents, majority 82 percent) of respondents belong to OBC category followed by general (9 percent), SC (7 percent) and ST (2 percent).

**Table: 4.2:** Age and education level of sample farmers

Name of crop	Age Group			Total	Educational Level				
	Young (upto 35 years)	Middle (36 to 50 years)	Old (Above 50 years)		Primary	HSSc	UG	PG	Total
Tulsi	9 (20)	23 (51)	13 (29)	45 (100)	25 (56)	14 (31)	6 (13)	-	45 (100)

It revealed from the table that more number of sample farmers was belongs to the middle age group (51 percent), followed by old age (29) and young age group (20 percent) of sample farmers. It was also observed that 56 percent sample farmers were educated up to primary level followed by higher secondary school (31 percent) and under graduation (13 percent) level. All the sample farmers were literate, so education generates awareness and also helpful to motivates

them for cultivation of Medicinal plant (Isabgol) in the study area.

Estimation of cost and return of Isabgol and its competitive crops

The sample farmer raising Isabgol along with its competitive crops i.e. Wheat and Garlic, so the cost and return of Wheat and Garlic also analysed then it will be helpful to know the profitability of Isabgol and their competitive crop. The details are given in Table 2.

**Table 2:** Cost of in cultivation of Isabgol crop and its competitive crop

Sl. No.	Particulars	Isabgol	Wheat	Garlic
(A) i.	Hired human Labour	14558.44	9278.27	41627.29
ii.	Machine Labour	2701.56	2367.34	1639.12
iii.	Value of seed	760.38	2044.83	50345.69
iv.	Value of manure and fertilizer	2972.07	4757.78	19708.69
v.	Irrigation Charges	2659.59	628.42	628.42
vi.	Depreciation Charges	3002.49	709.45	709.45
vii.	Land revenue & Taxes	206.80	48.86	48.86
viii.	Interest on working capital @ 5%	599.11	396.69	2294.15
	Cost A1&A2	27460.44	20231.64	117001.61
B.	Interest on fixed capital excluding land @ 10%	1060.12	250.49	970.56
	Cost B1	28520.56	20484.13	117972.17
C.	Rental value of owned land	15307.14	8237.48	29299.05
	Cost B2	43827.7	28719.61	147271.22
D.	Imputed value of family labour	1185.03	587.16	1359.15
	Cost C1 (cost B1 + imputed value of family labour)	29705.59	21064.29	119704.50
	Cost C2 (Cost B2 + Imputed Value of Family Labour)	45012.73	29306.77	148630.37
	Cost C3 (Cost C2 + 10% of	49514	32236.89	163384.13

It was observed that the total cost (Cost C3) of Isabgol, and its competitive crops i.e. Wheat and Garlic was estimated to be Rs. 49514, 32236.89 and 163384.13 respectively. Major portion of total costs covered by cost A1 in all the crops group

and it was 55.46, 62.75 and 71.61 percent to total cost (C3) under Isabgol, Wheat and Garlic crop respectively. But in case of Garlic crop it was 71.61 percent. The variation in cost A1 under different crops was found the variation may be due

to difference in hired human labour expenses. The Garlic crop required more human labour expenses for the different operations as compared to the other crops. The interest on fixed capital was found vary among garlic, Wheat and Isabgol crop respectively. The variation may be due to uses different type of implements by the sample farmers. The variation in the rental value of owned land under Isabgol and its

competitive crops were found and the variation may be due to difference in amount of gross income.

It could be concluded that the maximum (Rs. 49514) and minimum (Rs. 32236.89) total cost of cultivation was observed under Isabgol and Wheat crop respectively. Overall it could be concluded that more funds are required for raising Isabgol crop than their competitive crop in the study area.

**Table 3:** Profitability aspects of Isabgol Medicinal crop

Particulars	Isabgol	Wheat	Garlic
Gross Income	94827	52240	191889.71
Gross Expenses	49514	32236.89	163384.13
Net Income	45313	20003.11	28505.58
Farm Business Income	67366.56	32008.36	74888.10
Family Labour Income	50999.30	23520.39	44618.49
Cost of Production	4112.45	978.95	8972.23
BC Ratio	1:1.91	1:1.62	1:1.17

It revealed from the table that the net income was estimated to be Rs. 49313, 20003 and Rs. 28506 for Isabgol, Wheat and Garlic crop respectively. Regarding the result of farm business income, it shows that all the crops were profitable but Garlic crop was more profitable than Isabgol and Wheat crops. As under farm business income considered only actual expenses incurred by producers. The family labour income was also shows positive for all the crops but under Isabgol crop it was maximum (Rs. 50999). With the consideration of different profitability aspects in the study area. As far as the B.C. ratio was concerned it was estimated to be 1:1.91, 1:1.62 and 1:1.17 for Isabgol, Wheat, and Garlic crop respectively, which indicates that the Isabgol crop was more profitable than their competitive crops.

Over all it could be concluded that Isabgol crop was more profitable than their competitive crop. So, efforts are required to motivate the farmers to increase more area under Tulsi in the existing cropping pattern by the sample farmers than there income may be enhanced upto some extend and economic conditions and standard of living of the farmers may be improved in the study area.

## Conclusion

The area of Isabgol crop may be extend in the existing cropping pattern as this crop shows more profitable than its competitive crops. It will be helpful to improve the income as well as standard of living of the farmers. So, it also provides employment opportunity by raising this crop. Training programmes for technical guidance for package of practices and post harvest management of Isabgol crop may be conduct time to time and provide the guidance and literature by the concerned agencies. The planting material also should be made available by the concerned department/agencies in due time, it will helpful to improve the area as well as productivity of Isabgol crop in the study area as uses of this crop increases due to huge demand in the pharmaceuticals and cosmetic industries.

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