

## CONSTRAINTS PERCEIVED BY THE TRIBALS AND NON-TRIBALS IN ADOPTION OF SCIENTIFIC CULTIVATION OF SAFED MUSLI

H. R. Meena<sup>1</sup>, K. L. Dangi<sup>2</sup> and J. S. Manhas<sup>3</sup>

### ABSTRACT

*The present paper is based on the study conducted in Udaipur district of Rajasthan. After interviewing 120 farmers of two categories (Tribal and Non-tribal) growing safed musli, it was revealed that tribals and non-tribals both expressed financial issue as the main constraint for adoption of safed musli. It was reported that "high cost of inputs particularly seedling material" (MPS 96.09) and "high cost of cultivation" (MPS 95.83) were most severe constraints in adoption of improved cultivation of safed musli. Both the categories of respondents found to be facing similar constraints. The resource poor farmers always afraid of failure of safed musli crop.*

### INTRODUCTION

Safed musli is one of the most important medicinal plants. Roots are the economic parts of this medicinal herb and aphrodisiac drug is prepared from the roots. Its roots also are generally used in powdered form. This herb belongs to the family liliaceae and grows wild in certain pockets of south Rajasthan, Gujarat, M.P. and Maharashtra states of India.

In recent years, many farmers are getting attracted and showing keen interest in its cultivation on a large scale due to very high profitability. A clean dried product can fetch as high as Rs. 2000 per kg. The white product fetches more price than yellow or brownish material. According to an estimate, safed musli is being cultivated on an area of 20 ha. and its cultivation is spreading fast in new areas such as Kota, Jaipur and Jhalawar district of Rajasthan. But there are some bottlenecks, which hamper its successful cultivation. With this point of view, the present study was undertaken with an

objective to identify the various constraints perceived by safed musli growers.

### METHODOLOGY

The present study was conducted in the Udaipur district of Rajasthan. Udaipur is the district where safed musli is grown by the maximum number of farmers. Jhadol panchayat samiti from the district was selected for the purpose of investigation where safed musli is grown by the maximum number of farmers. All villages where safed musli is being grown by the farmers were selected. Thus, total villages were 12. Tribal farmers 80 and non-tribal farmers 40 who grow safed musli were available in Jhadol panchayat samiti. That way, the overall size of sample constituted of total 120 respondents. Data were collected by the investigators with the help of specially prepared and structured schedule employing personal interview technique. Thereafter, data were analyzed tabulated and interpreted in the light of objective of the study.

1. M.Sc. Scholar, Department of Ext. Edu., RCA, Udaipur (Raj.), Pin: 313 001
2. Assoc. Prof., Department of Ext. Edu., RCA, Udaipur (Raj.), Pin: 313 001
3. Ph.D. Scholar, Department of Ext. Edu., RCA, Udaipur (Raj.), Pin: 313 001

## RESULTS AND DISCUSSION

An effort was made to identify the constraints perceived by the safed musli growers. The five groups of constraints were namely, technical constraints, financial constraints, marketing constraints, storage constraints and general constraints. The results of the same are presented in the following tables.

Table 1 explains that farmers of the study area, tribals and non-tribals both, expressed highest problems regarding "financial constraints" of safed musli growing with (MPS 93.50) and ranked first and "marketing constraints" (MPS 86.27), "storage constraints" (MPS 83.46), "technical constraints" (MPS 73.55) and "general constraints" (MPS 72.78) which were at 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> ranks realized by the tribal and non-tribal respondents, respectively.

The calculated  $r_s$  value 0.90 shows that it was significant at 1 per cent level hence, null hypothesis ( $H_0$ ) was rejected and the research hypothesis ( $H_1$ ) was accepted. It means that constraints of tribals and non-tribals are correlated in adoption of improved cultivation of safed musli.

The findings are in agreement with the findings of Meghwal (1999), who reported that major constraint in adoption of bajra production technology by the farmers was

financial constraints in the study area.

Table 2 reveal that "installation of sprinkler irrigation system" (MPS 96.11) and "unavailability of sprayers and dusters" (MPS 96.11) were realized as major constraints with high intensity by safed musli growers which is indicated by their first rank. These were followed by "unavailability of irrigation water" (MPS 93.61), "unavailability of inputs including pesticides and insecticides at right time" (MPS 87.77), "lack of technical guidance" (MPS 76.11), "inadequate knowledge of field functionaries" (MPS 75.55), "lack of proper training" (MPS 72.77), "unavailability of plain soil" (MPS 53.61), "water logging" (MPS 48.88) and "unavailability of suitable soil" (MPS 34.99) with 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> ranks assigned in order respectively. The realization of the problem relating to "installation of sprinkler irrigation system" and "unavailability of sprayers and dusters" may be because of unavailability and high cost of sprinkler irrigation system and sprayers and dusters in the market.

The rank order correlation coefficient was used and ranks accorded to various technical aspects by both the categories of respondents. The calculated value of rank order correlation coefficient ( $r_s$ ) was found to be 0.85, which is statistically significant at 5 per cent level of significance. Hence,

**Table 1 : Overall constraints perceived by the respondents in major aspect of improved cultivation of safed musli crop** **N=120**

Sr. No.	Constraints	Tribal		Non-tribal		Total	
		MPS	Rank	MPS	Rank	MPS	Rank
1.	Technical constraints	75.33	4	70.00	5	73.55	4
2.	Financial constraints	94.44	1	91.67	1	93.5	1
3.	Marketing constraints	87.43	2	83.95	2	86.27	2
4.	Storage constraints	85.20	3	80.00	3	83.46	3
5.	General constraints	73.33	5	71.67	4	72.78	5

$r_s = 0.90^*$

MPS = Mean percent score  
N = Sample size

$r_s$  = Rank order correlation coefficient  
\* = Significant at 1% level of significance

**Table 2 : Technical constraints perceived by the respondents in adoption of improved cultivation of safed musli**  
N=120

Sr. No.	Constraints	Tribal		Non-tribal		Total	
		MPS	Rank	MPS	Rank	MPS	Rank
1.	Water logging	50.41	9	45.63	8	48.88	9
2.	Unavailability of plain soil	58.33	8	44.16	9	53.61	8
3.	Unavailability of suitable soil	35.41	10	34.16	10	34.99	10
4.	Unavailability of irrigation water	95.83	3	89.16	4	93.61	3
5.	Installation of sprinkler irrigation system	97.5	1	93.33	3	96.11	1
6.	Unavailability of sprayers and dusters	97.08	2	94.16	2	96.11	1
7.	Lack of technical guidance	79.58	6	69.16	6	76.11	5
8.	Inadequate knowledge of	80.83	5	65.00	7	75.55	6
9.	Unavailability of inputs including pesticides and insecticides at right time	84.16	4	95.00	1	87.77	4
10.	Lack of proper training	74.16	7	70.00	5	72.77	7

$r_s = 0.85^*$

**MPS** = Mean percent score

$r_s$  = Spearman's rank order correlation coefficient

\* = Significant

the hypothesis stated in null form ( $H_0$ ), "there is no correlation in the intensity of technical constraints perceived by both types of respondents in improved cultivation of safed musli" was rejected and alternative or research hypothesis ( $H_1$ ) was accepted. It means that prioritization of the various problems about technical between non-tribals was closely correlated with prioritization of the problems by the tribal respondents.

Findings are in agreement with the findings of Farooqui, *et. al.* (1993) who observed that unavailability of technical information, lack of money, high cost of inputs, etc. were some of the major problems faced by the farmers in adoption of water management practices of wheat and summer groundnut crops.

Table 3 show that "high cost of inputs particularly seedling material" (MPS 96.09) was perceived as most severe constraint with top priority and accorded the first rank by the total respondents. This was followed

by "high cost of cultivation" (MPS 95.83), "lack of easy installments for recovery" (MPS 94.44), "lack of credit facilities in the area" (MPS 94.44), "unawareness of credit facilities" (MPS 93.33) and "lack of provision of subsidy" (MPS 86.94) with 2<sup>nd</sup>, 3<sup>rd</sup>, 5<sup>th</sup> and 6<sup>th</sup> ranks.

The rank order correlation coefficient shows that, the  $r_s$  value (0.20) was non-significant. Thus, the hypothesis stated in null form ( $H_0$ ) "there is no correlation in the intensity of financial constraints, as perceived by both the types of respondents in improved cultivation of safed musli" was accepted and alternative hypothesis ( $H_1$ ) "there is correlation in the intensity of financial constraints, as perceived by both the type of respondents in improved cultivation of safed musli" was not accepted. It means tribals were facing financial problems which were different from the problems of non-tribals in this particular area for improved cultivation of safed musli.

**Table3 : Financial constraints perceived by the respondents in adoption of improved cultivation of safed musli**  
N=120

Sr. No.	Constraints	Tribal		Non-tribal		Total	
		MPS	Rank	MPS	Rank	MPS	Rank
1.	Lack of credit facilities	95.41	4	92.5	3	94.44	3
2.	High cost of inputs particularly seedling material	97.08	2	94.12	1	96.09	1
3.	Unawareness of credit facilities	95.00	5	90.00	5	93.33	5
4.	Lack of provision of subsidy	84.58	6	91.67	4	86.94	6
5.	Lack of easy installments for Recovery	97.5	1	88.33	6	94.44	3
6.	High cost of cultivation	97.08	2	93.33	2	95.83	2

 $r_s = 0.20$  NS

MPS = Mean percent score

NS = Non-significant

 $r_s$  = Rank order correlation coefficient

n = Sample size

These findings are in confirmation with the findings of Tantry and Nandu (1991) who revealed that the main constraints in increasing rice production in

Kashmir valley were high cost of cultivation, lack of profitable marketing system and inadequate credit facilities.

Table 4 depicts that first and foremost problem regarding the marketing of safed musli was "no produce procurement policy of government" because it was perceived to be at the pinnacle with its (MPS 96.11). Second problem regarding the marketing was "improper marketing channels" for safed musli as expressed by all respondents. "Lack of marketing procedure" (MPS 93.33) and "ignorance about markets" (MPS 93.33) were accorded similar rank 3<sup>rd</sup> by the all respondents. "High fluctuation in market prices" (MPS 93.35), "ignorance about the support price" (MPS 92.50), "distress sale due to immediate need of money" (MPS 91.94), "lack of proper market" (MPS 91.39), "lower prices at the harvesting stage" (MPS 90.83), "problem of transportation" (MPS 88.33), "lack of techniques in preparing fasciculated roots for marketing" (MPS 75.30)

and "malpractices of middlemen" (MPS 34.72), were accorded 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> rank by the tribal and non-tribal safed musli growers.

The rank order correlation coefficient shows that, the  $r_s$  value (0.64) was significant. Thus, the hypothesis stated in null form (Ho) "there is no correlation in the intensity of marketing constraints, as perceived by both the types of respondents in improved cultivation of safed musli" was not accepted.

The findings are in conformity with the findings of Paul (2000) who reported that uncertainty of sale of produce and lack of regular market as major constraints confronted by mushroom growers.

Table 5 show that "difficulty in preventing the tubers from high humidity and water" (MPS 89.72) was realized as a constraint with high intensity by safed musli growers which is indicated by their first rank. "Lack of technical knowledge of storage for seed purpose and marketing" (MPS 77.20) was the second prioritized constraint among all the farmers.

Calculated  $r_s$  value 1.00 was found to be

**Table 4: Marketing constraints perceived by the respondents in adoption of improved cultivation of safed musli**

S.No.	Constraints	Tribal		Non-tribal		Total	
		MPS	Rank	MPS	Rank	MPS	Rank
1.	Problem of transportation	90.00	10	85.00	10	88.33	10
2.	Lack of proper market	93.75	6	86.67	9	91.39	8
3.	High fluctuation in market prices	95.45	2	89.17	6		5
4.	Distress sale due to immediate need of money	94.17	5	87.5	8	91.94	7
5.	No produce procurement policy of government	97.5	1	93.33	2	96.11	1
6.	Lack of marketing procedure	95.00	3	90.00	5	93.33	3
7.	Mai practices of middlemen	33.33	12	37.5	12	34.72	12
8.	Improper marketing channels	92.95	7	96.67	1	94.19	2
9.	Lack of techniques in preparing fasciculated roots for marketing	77.95	1	70.00	11	75.3	11
10.	Ignorance about markets	94.58		90.83	4	93.33	3
11.	Ignorance about the support price	92.5	8	92.5	3	92.50	6
12.	Lower price at the harvesting stage	92.08	9	88.33	7	90.83	9

$r_s = 0.64^*$

**MPS** = Mean percent score  
 **$r_s$**  = Rank order correlation coefficient  
**\*** = Significant

perfectly significant at 5 per cent level of significance. It means, problems of the tribals and non-tribals related to adoption of improved practices of storage were almost similar. Therefore, null hypothesis ( $H_0$ ) for this particular aspect was not accepted.

This findings are in confirmity with the findings of Sanadhya (1997) that lack of knowledge was the main constraint in

adoption of scientific storage practices.

Table 6 show that "resource poor farmers" (MPS 91.94) and "less risk bearing capacity of the farmers" (MPS 90.28) were perceived on top priority and accorded 1<sup>st</sup> and 2<sup>nd</sup> rank by the tribal and non-tribal respondents. This was followed by "occupation of the land which can be utilized for other needful crops" (MPS 85.56), "lack of motivating agencies in

**Table 5: Storage constraints perceived by the respondents in adoption of improved cultivation of safed musli**

S.No.	Constraints	Tribal		Non-tribal		Total	
		MPS	Rank	MPS	Rank	MPS	Rank
1.	Lack of technical knowledge of storage for seed purpose and marketing	80.83	2	70.00	2	77.2	2
2.	Difficulty in preventing the tubers from high humidity and water	89.58	1	90.00	1	89.72	1

$r_s = 1^*$

**MPS** = Mean percent score  
 **$r_s$**  = Rank order correlation coefficient  
**n** = Sample size  
**\*** = Significant

**Table 6: General constraints perceived by the respondents in adoption of improved cultivation of safed musli**

Sr. No.	Constraints	Tribal		Non-tribal		Total	
		MPS	Rank	MPS	Rank	MPS	Rank
1.	Natural calamities	67.08	5	71.67	4	68.61	5
2.	Less risk bearing capacity of the farmers	92.08	2	86.67	2	90.28	2
3.	Resource poor farmers	93.33	1	89.17	1	91.94	1
4.	Unawareness about medicinal value of safed musli	65.00	6	55.00	6	61.67	6
5.	Lack of motivating agencies in the area	71.25	4	69.17	5	70.56	4
6.	Lack of motivation by the fellow farmers	35.83	7	34.17	7	35.28	7
7.	Occupation of the land which can be utilized for other needful crops	88.75	3	79.17	3	85.56	3

$r_s = 0.96^*$

**MPS** = Mean percent score  
 **$r_s$**  = Rank order correlation coefficient  
**n** = Sample size  
**\*** = Significant at 5 per cent level of probability

the area" (MPS 70.56), "natural calamities" (MPS 68.61), "Unawareness about medicinal value of safed musli" (MPS 61.67) and "lack of motivation by the fellow farmers" (MPS 35.28), which were accorded 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> rank by the respondents, respectively.

Calculated  $r_s$  value 0.96 was found to be significant. It means, problems of the tribals and non-tribals related to adoption of improved practices of general constraints were similar. Therefore, null hypothesis ( $H_0$ ) for this particular aspect was not accepted.

The findings are in line with the findings of Yadav (1988) who found that lack of knowledge, high cost of inputs, poor economic condition of farmers, un-availability of improved seeds in the area and lack of technical knowledge about harvesting technology were the major constraints perceived by the farmers in ginger cultivation.

It can be concluded from the findings that "installation of sprinkler irrigation system", "unavailability of sprayers and dusters",

"high costs of inputs particularly seedling material, "no produce procurement policy of government", "difficulty in preventing the tubers from high humidity and water" and "resource poor farmers" were perceived as major constraints by tribal and non-tribal safed musli growers.

## CONCLUSION

Based on the findings, it is recommended that the farmers of the study need to be provided maximum possible subsidy for installing sprinkler irrigation system, timely availability of sprayer and dusters be ensured, timely inputs including pesticides must be made available and technical guidance to the farmer is the key to success of the crop. The credit facilities in the area need to be strengthened so as to help the farmers in motivating them for the cultivation of this medicinal plant. Further it is suggested that there is immediate need in the area for establishing the procurement policy and marketing channels for purchasing the produce of safed musli in the village it self.

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