



## Extent of adoption level of medicinal and aromatic plants growers in Karnataka

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### ABSTRACT

The present study was conducted during 2007-08 in Dharwad, Belgaum and Gadag districts of Karnataka the ex-post facto research design was used for the study. A total sample comprising of 140 medicinal and aromatic plants contract farmers were randomly selected. 45.71 per cent of the farmers belonged to medium level category have adopted the aswagandha cultivation practices. (54.28%) of the farmers belonged to medium level of adoption about cultivation practices patchouli crop. (45.71%) of the farmers belonged to medium level category have adopted cultivation practices citronella. majority (51.44%) of the farmers belonged to medium level of adoption about cultivation practices.

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### INTRODUCTION

Contract farming is defined as a system of production and supply of agricultural and horticultural produce by farmers under forward contracts. Such arrangements are being a commitment to provide agricultural and horticultural produce of a type, at a specified price and in a specified quantity to a known buyer. Contract farming can be described as a half way house between independent farm production and corporate farming.

Medicinal and aromatic plant flowers and plantation crops received due attention only during unplan period for the planned investment. The investment on horticulture during the decade has been highly rewarding in terms of increased production and productivity. To achieve the growth rate of 4 per cent in agriculture, the horticulture sector is expected to grow at the rate of 6-7 per cent annually.

Thus, the potentiality which exists in the country has to be honoured in a systematic manner where in medicinal and aromatic plants have to play a very significant role in contract

farming.

Adoption is a decision to make full use of innovation on the best course of action available (Rogers, 1983) in the present study adoption referred to actual use recommended cultivation of medicinal and aromatic plants.

### METHODOLOGY

The present study was conducted in Dharwad, Belgaum and Gadag districts of Karnataka the ex-post facto research design was used for the study. A total sample comprising of 140 medicinal and aromatic plants contract farmers were purposively selected randomly from selected taluks like Kalgatgi, Hubli, and Dharwad, taluks from Dharwad district. Savdati, Hukeri, Gokak, Chikodi, and, Belgaum taluks from Belgaum district, Ron and Gadag taluks from Gadag district were selected respectively.

The dependent variable included for the study was Knowledge and Adoption Percentage and frequency were used to measure Knowledge and Adoption of contract

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farmers. The other selected independent variables like age, education, land holding, annual income, extension participation, innovative proneness, risk orientation, scientific orientation, and mass media participation were measured using already developed scales by the earlier researchers. Finally, the data were tabulated and analysed by using frequency, percentage, in addition mean and standard deviation was calculated to draw the varied inferences.

**RESULTS AND ANALYSIS**

The results presented in Table 1, reveals that, 45.71 per cent of the respondents belonged to medium level of adoption category, followed by 28.57 per cent and 25.72 per cent of the respondent’s belonged to high and low level of adoption category, respectively. The reasons for majority in low level of adoption category might be their less knowledge level, because of less exposure to mass media, less extension contact and tendency less risk bearing ability and low innovativeness. All these factors might have contributed for this kind of trend towards adoption of ashwagandha cultivation practices.

**Table 1 : Overall adoption level of cultivation practices medicinal and aromatic plants Ashwagandha and Patchouli**

Category	Ashwagandha		Patchouli	
	F	P	F	P
Low (Mean – SD)	9	25.72	7	20.00
Medium (Mean ± SD)	16	45.71	19	54.28
High (Mean + SD)	10	28.57	9	25.71
Mean	9.08		15.17	
SD	2.57		4.06	

\*Note: F- Frequency P- Percentage

This finding is in conformity with results reported by Hanumanaikar (1995), in his study most of the respondents belongs to medium level category had adopted the recommended cultivation practices of mango similar type of observation was noticed in present study.

In order to adopt any technology the Knowledge is the pre-requisite, there by. Enhance the availing benefits. Hence the knowledge of on particular practice helps an individual in terms of profitability and productivity farmers need sufficient.

The results presented in table 1, reveals that, 54.28 per cent of the respondents belonged to medium level of adoption category, followed by 25.71 per cent and 20.00 per cent of the respondents belonged to high and low level of adoption category, respectively.

Probable reason for the respondents to be in high level of adoption category might be medium and literacy due to the moderate acquired knowledge possessed by the respondents. Since knowledge limits the action of individuals, as it is the basic pre-requisite for any individual to think of the pros and cons in making a decision either to adopt or to reject a particular practice. The other reason might be that, the individuals’ more innovativeness that is eager to learn new knowledge. The results reveals that, majority of farmers fall in high innovativeness category, and at the same time more risk bearing ability of an individual and positive significant role in adoption of new practices for cultivation of patchouli medicinal and aromatic crops.

The findings are in conformity with the results of research study conducted by Ajay Kumar, (1989) in his study most of the respondents belongs medium level category had adopted the recommended cultivation practices of grapes. Similar type of results was observed in the present study.

The results presented in Table 2, reveals that, maximum of 45.71 per cent of the respondents belonged to medium level of adoption category, followed by 31.42 per cent and 22.87 per cent of the respondent’s belonged to high and low level of adoption category, respectively. The reasons for majority in medium level of adoption category might be their literacy and acquired knowledge, medium level of exposure towards mass media, and comparative extension contact and tendency medium level risk bearing ability.

**Table 2 : Overall adoption level of cultivation practices medicinal and aromatic plants citronella and lemongrass**

Category	Citronella		Lemongrass	
	F	P	F	P
Low (Mean – SD)	11	31.42	12	34.28
Medium (Mean ± SD)	16	45.71	18	51.44
High (Mean + SD)	8	22.87	5	14.28
Mean	10.42		11.14	
SD	1.53		1.53	

\*Note: F- Frequency P- Percentage

All these factors might have contributed for this kind of trend in adoption of citronella cultivation practices.

This finding is in conformity with results reported by kubde (2000), In his study most of the respondents belongs medium level category had adopted the recommended cultivation practices of potato. Similar type of results was observed in the present study.

Similarly, the results presented in Table 2, also reveals that, maximum of 51.44 per cent of the respondents also belonged to medium level of adoption category, followed by 34.28 per cent and 14.28 per cent of the respondents belonged to low and high level of adoption category, respectively.

The probable reason for the respondents to be in medium level of adoption category might be due to the medium knowledge level possessed by the respondents, about cultivation practices of lemongrass and also medium level education level among farmers to certain level. Since knowledge limits of individuals, and it is the basic prerequisite for any individual to think in making a decision to either adopt or reject cultivation practice, about lemongrass. The other reason might be that, the individuals' had comparatively less innovativeness. The results reveal that, majority of farmers had come under medium innovativeness category. and at the same time having medium level risk bearing ability in adoption of new practices

The findings are in conformity with the results of Srinivasareddy (1995), In his study most of the respondents belongs medium level category had adopted the recommended cultivation practices of mango. Similar type of results was observed in the present study.

It could be observed from Table 3 indicates that, the adoption of detailed recommended cultivation practices in order of priority are: Recommended varieties (100%), Seedling or slips recommended (91.4%), Time of sowing (91.4%), Recommended FYM(62.8%), Important diseases (11.4%), fungicide used to control diseases(11.4%), Recommended NPK(1.4%), respectively.

The reasons for above findings might be due to less incidence of pests and diseases in that area and the most of the respondents adopted the recommended variety which are resistant to the pests and diseases. Other possible reason for adoption of these practices as recommended and simplicity and low cost of the cultivation practices, which can be easily practiced by making use of their available knowledge and resources without reliance on any external agency. The reason adopting seed treatment with indigenous technology might be a trend that most of the respondents were convinced as to the profitability and productivity of this practice.

Further, the Table also reveals that, the respondents non adoption of the recommended cultivation practices in order of priority are: Recommended NPK(71.4%), Recommended Important Pest (65.7%), Chemical used to control pest (65.7%), Important diseases (62.8%),

fungicide used to control diseases(62.8%), respectively.

The reasons for non adopting the above cultivation practices might be due to the lack of education level and acquired of knowledge about maintaining the spacing. In case of fertilizer, use the reason may be of its high cost and non availability in time, so it is very essential to educate farmers regarding these practices in order to motivate them to adopt, as these practices are also important from the point of getting higher yields.

It could be observed from Table 3 indicates that, the adoption of detailed recommended cultivation practices in order of priority were: Type of soil (100%), Time of sowing (100%), recommended varieties (94.2%), recommended FYM(82.8%), Important Pest (62.8%), chemical used to control pest (62.8%), seedling recommended or rooted slips(5.7%), important diseases (57.1%), chemical used to control diseases(57.1%), recommended NPK(54.2%),

The possible reason for may be that, majority of the respondents might have more knowledge about the importance of recommended cultivation practices of patchouli crop in order to get higher yield. Another possible reason might be that, patchouli fetches more price compare other medicinal and aromatic plants. As far as fertilizer is considered, most of the respondents were convinced as to the profitability and practicability of this practice.

Further, the Table also reveals that, the respondent's non adoption the recommended cultivation practices in order of priority were: Important diseases (34.2%), fungicide used to control diseases (34.2%), Important Pest (28.5%), Chemical used to control pest (28.5%), Recommended NPK (8.5%), Recommended FYM (8.5%),

The reasons for above findings for non adopting the recommended cultivation practices due to low level of knowledge of education and these practices. Another reason might be that, the cost of cultivation for this crop is very high almost 3-4 times more than other medicinal and aromatic plants the findings are in line with the findings of Hanumanaikar (1995).

It could be observed from Table 4 indicates that, the adoption of detailed recommended cultivation practices in order of priority were: Type of soil (85.7%), recommended varieties (100%), Time of sowing (100%), recommended FYM(51.4%), chemical used to control pest (17.1%), seedling recommended or rooted slips(5.7%), recommended NPK(5.7%), Important Pest (5.7%), important diseases (5.7%), respectively.

The reasons for above findings might be respondents

**Table 3 : Practice wise adoption level of cultivation practices medicinal and aromatic plants Ashwagandha and Patchouli**

Cultivation practices	Ashwagandha						Patchouli					
	Full adoption		Partial adoption		Non adoption		Full adoption		Partial adoption		Non adoption	
	F	P	F	P	F	P	F	P	F	P	F	P
1. Soil type	0	0	35	100.00	-	-	35	100.00	-	-	-	-
2. Varieties recommended.	35	100.00	-	-	-	-	33	94.28	2	5.71	-	-
3. Seed rate or rooted slips / acres	32	91.42	3	8.57	-	-	2	5.71	33	94.28	-	-
4. Time of sowing	32	91.42	3	8.57	-	-	35	100.00	-	-	-	-
5. Recommended N P K fertilizer dose/acres	5	14.28	5	14.28	25	71.40	19	54.28	19	54.28	3	8.57
6. Recommended F Y M	22	62.85	13	37.14	-	-	29	82.85	3	8.57	3	8.57
7. Important pest	3	8.57	9	25.71	23	65.71	22	62.85	3	8.57	10	28.57
8. Chemical for control pest	3	8.57	9	25.71	23	65.71	22	62.85	3	8.57	10	28.57
9. Important disease	4	11.42	9	25.71	22	62.85	20	57.14	3	8.57	12	34.28
10. Fungicide to manage Disease	4	11.42	9	25.71	22	62.85	20	57.14	3	8.57	12	34.28

\* Note: F- Frequency P- Percentage

adopted the recommended variety which are resistant to the pests and diseases. and suitable to right time of planting Other possible reason for adoption of these practices as recommended and simplicity and low cost of these practices, which can be practiced by making use of their own acquired knowledge and resources without depend on any external farmer.

Further, the Table also reveals that, the respondents non adopted the recommended cultivation practices in order of priority are: Important diseases (94.2%), fungicide used to control diseases(94.2%), Important Pest (77.1%), Chemical used to control pest (71.4%), Recommended FYM(2.8%),respectively.

The reasons for non adopting the above cultivation

citronella practices might be due to the lack of knowledge about maintaining the spacing and less importance attached by the respondents. In and more prone to diseases and pests. This finding is in conformity with the finding of Wase (2001).

It could be observed from Table 4 indicates that, the full adoption of detailed recommended cultivation practices in order of priority were: Recommended varieties (100%), Time of sowing (100%), Type of soil (62.8%), Recommended NPK(62.8%), Recommended FYM (62.8%), Seedling recommended or rooted slips(11.4%), Important Pest (2.8%), Chemical used to control pest (2.8%), respectively.

The possible reason for may be that, majority of the

**Table 4 : Practice wise adoption level of cultivation practices medicinal and aromatic plants Citronella and Lemongrass**

Sr. No.	Cultivation practices	Citronella						Lemongrass					
		Full adoption		Partial adoption		Non adoption		Full adoption		Partial adoption		Non adoption	
		F	P	F	P	F	P	F	P	F	P	F	P
1.	Soil type	30	85.71	5	14.28	-	-	22	62.85	13	37.1	-	-
2.	Varieties recommended	35	100.00	-	-	-	-	35	100.00	0	0	-	-
3.	Seed rate or rooted slips / acres	2	5.71	33	94.28	-	-	4	11.42	31	88.5	-	-
4.	Time of sowing	35	100.00	-	-	-	-	35	100.00	0	0	-	-
5.	Recommended N P K fertilizer dose/acres	2	5.71	33	94.28	-	-	22	62.85	13	37.1	-	-
6.	Recommended F Y M	18	51.42	6	17.14	1	2.85	22	62.85	13	37.1	-	-
7.	Important pest	2	5.71	6	17.14	27	77.14	1	2.85	12	34.2	22	62.85
8.	Chemical for control pest	6	17.1	4	11.42	25	71.42	1	2.85	12	34.2	22	62.85
9.	Important disease	2	5.71	-	-	33	94.28	-	-	1	2.8	34	97.14
10.	Fungicide to manage Disease	2	5.71	-	-	33	94.28	-	-	1	2.8	34	97.14

\* Note: F- Frequency P- Percentage

respondents might have acquired knowledge about the importance of recommended cultivation practices of varieties recommended, and planting time, in order to get good yield. Another possible reason might be that, lemongrass cultivation practices are easier it does not require skilled labour than other aromatic plants. As far as fertilizer is considered, most of the respondents were using indigenous fertilizer and also depend upon the soil.

Further, the Table also reveals that, the respondents who did not adopt the recommended cultivation practices in order of priority were: important diseases (97.1%), Chemical used to control diseases (97.1%), Important Pest (62.8%), Chemical used to control pest (62.8%), respectively.

The reasons for above findings for non adopting the recommended cultivation practices due to low level of knowledge and less education level to carry out these practices. Another reason might be that, to the lack of knowledge about spacing, type of soil, use of fertilizer dose, use of seed rate. This finding is in conformity with the finding of Babana (2002)

#### Conclusion:

On the basis of findings, it could be concluded that the adoption level of both medicinal and aromatic crops showed medium level of adoption category. It is due to the fact that, medium knowledge and less exposure to the mass media and also the cost of cultivation is very high compared to other crops, and other reasons like manipulation of norms by firms, delayed payment, low contract price, labour problem.

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