

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

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### ABSTRACT

The study was conducted during 2007-08 at 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. Most of the farmers (45.72 per cent) belonged to high level of knowledge about cultivation practices of Ashwagandha whereas, 28.57 per cent and 25.71 per cent of the respondents came under low and medium knowledge level category, respectively. Most of the farmers (65.72 per cent) belonged to high knowledge level about cultivation practices of Patchouli whereas, 20 per cent and 14.28 per cent of the respondents were categorized as low and medium knowledge level category, respectively.

**KEY WORDS :** Knowledge, Ashwagandha, Patchouli, Citronella, Lemongrass

Pawar, Basvaraj, Sadaqath, Syed. and Binkadakatti, J.S. (2011). Extent of knowledge level of medicinal and aromatic plants growers in Karnataka, *Adv. Res. J. Soc. Sci.*, 2 (1) : 71-75.

### INTRODUCTION

The globalization of Indian agriculture in the recent years has resulted in the production of export-oriented quality products having comparative advantage. To fulfill the commitment of the World Trade Organization (WTO), the recent dismantling of the system of quantitative restrictions (QRs) on imports by the Union Government has provoked new challenge to the Indian farmers to compete in the world market. With the WTO's demand for trade liberalization and reduction in subsidy, the Indian farmers are facing threats to their survival from every quarter corner.

Parallel to this problem of fragmentation of land holding, hampering farm mechanization, have prevented the farmer from getting optimum yields from his farm. The lack of capital forces, the farmer to compromise on the farm inputs, again resulting in the less of productivity. In such a scenario, contract farming is fast emerging as the optimal model of farming.

In India, contract farming was initiated during 1920's by ITC by introducing Virginia tobacco in coastal in Andhra

Pradesh. Contract farming has existed in Karnataka for decades mainly in sugar mills. Gherkins have been recently introduced in India for commercial production mainly for exports. The credit for introducing cultivation of gherkins in Karnataka for processing and export in preserved form goes to a few private firms started during 1991. In the past three years, Karnataka stood first in export of preserved gherkins with a share of over 90 per cent in total export of preserved gherkins from India.

### METHODOLOGY

The study was conducted in northern part of Karnataka i.e. 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 Talukas like Kalgatgi, Hubli, and Dharwad, Talukas from Dharwad district. Savdati, Hukeri, Gokak, Chikodi and Belgaum Talukas from Belgaum district, Ron and Gadag Talukas from Gadag district.

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The dependent variable included for the study was knowledge and adoption percentage and the frequencies were used to measure the knowledge and adoption of contract 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 were calculated to draw the varied inferences.

### OBSERVATIONS AND DISCUSSION

The results of Table 1 indicate that majority of the respondents (45.71 %) had medium level of knowledge, while 28.57 and 25.72 per cent of them had high and low level of knowledge, when medium and high knowledge level respondents were combined together, the percentage came to 71.43 per cent which has better significance and exerted interest among the respondents to know the recommended practices of Ashwagadha cultivation.

If we consider the personal and socio-economic characteristics that maximum of the respondents exhibited 32.14 per cent of the respondents were middle school level of education. Because of this moderate education level among the medicinal growers might have promoted the respondents to acquire more information about recommended practices of Ashwagadha cultivation. Further, majority of the respondents possessed television and (>6.42%) and farmers owned radio (47.85 per cent) having the viewing and listening habit of agricultural programmes regularly which might have helped them to gain more knowledge on Ashwagadha cultivation practices. The results were in conformity with the findings of Gupta (1999), In his study most of the respondents belongs medium level category had knowledge with respect to integrated pest management. Hence this study is conformity with present study.

**Table 1 : Overall knowledge level of cultivation practices of Ashwagandha and Patchouli**

Category	Ashwagandha		Patchouli	
	F	P	F	P
Low (Mean-SD) 2.13	9	25.72	7	20.00
Medium (Mean ± SD) 5.33-7.46	16	45.71	19	54.28
High (mean + SD) 7.4	10	28.57	9	25.72
Mean	6.4		9.25	
SD	2.1		2.82	

\* Note: F- Frequency P- Percentage

The results of Table 1 also reveal that majority of the respondents (65.72 %) had high level of knowledge about the cultivation practices. While, 20 and 14.28 per cent possessed medium and low and level of knowledge, respectively towards cultivation of patchouli crop while analysis of personal and socio-economic characteristics of the respondents revealed that nearly fifty per cent of the respondents possessed television and majority of them owned radio sets. Probably these media might have contributed them to gain more knowledge on agricultural practices towards cultivation of Patchouli.

Further knowledge of recommended practices is the pre-requisite for adoption of these practices. In the present study revealed that majority of the farmers had medium knowledge of patchouli cultivation practices, moreover the respondents had less contact with extension personnel and their participation in social activities is also meager, there by. These factors might have contributed developing in medium level of knowledge.

The present findings are in conformity with the results of Mankar *et al.* (1996), In his study most of the respondents belongs medium level category had a knowledge about about the cultivation practices of medicinal plants. Hence this study is conformity with present study.

The results of Table 2 reveal that, majority of the respondents (54.28 per cent) had high knowledge level about the cultivation practices. While, 34.28 and 11.42 per cent contract farmers possessed low and medium level of knowledge, respectively. The analysis of personal and socio-economic characteristics of the respondents revealed that nearly fifty per cent of the respondents possessed television and majority of them radio owned sets, absolutely these mass media might have contributed to gain more knowledge on agricultural practices.

The knowledge of recommended practices is pre-requisite for adoption of these practices. In the present study it revealed that majority of the farmers had high knowledge level towards Citronella cultivation practices. Further, these factors might have contributed in gaining

**Table 2 : Overall knowledge level of cultivation practices of Citronella and Lemongrass**

Category	Citronella		Lemongrass	
	F	P	F	P
Low (Mean-SD)	12	34.28	13	37.14
Medium (Mean ± SD)	4	11.42	5	14.28
High (mean + SD)	19	54.28	17	48.57
Mean	8.4		8.23	
SD	1.86		1.86	

\* Note: F- Frequency P- Percentage

high level of knowledge. The findings have similarity with the results of Sakharkar(1995). In his study most of the respondents belonged to medium level category and had knowledge about soybean cultivars. Comparatively this result is similar with the present study.

The results of Table 2 indicate that majority of the respondents (48.57 %) had high knowledge while 37.14 and 14.28 per cent of them had low and medium level of knowledge, respectively. When high and medium knowledge level respondents were combined together, the percentage came to 62.85 per cent which is a good significance and created interest of the respondents to know the recommended practices of lemongrass cultivation.

Further, the analysis of data on personal and socio-economic characteristics of the respondents on their personal behaviour, it is revealed that, 32.10 per cent of the respondents had Middle School level of education. Because of the medium education level the medicinal growers might have promoted the respondents to acquire more knowledge about recommended practices of lemongrass cultivation. The findings have similarity with the results of Gandhi (2002). In his study most of the respondents belonged to medium level category and had knowledge about the cultivation practices of rice. Hence, this study is in conformity with the present study.

The data presented in Table 3 reveal that the respondents had knowledge about detailed Aswagandha cultivation practices and in order of priority were: Type of soil (100%), recommended varieties (100%), seedling or slips recommended (100%), time of sowing (100%), recommended FYM(100%), recommended NPK (57.1%), important pests (45.7%), chemical used to control pest (45.7%), important diseases (45.7%), fungicides used to control diseases(45.7%).

Further, the possible reasons for the results might be due to the fact that, Ashwagadha is commonly cultivated in the area and also fetch maximum price to farmers which has familiar with these simple practices which neither require a special skills for cultivation. Ashwagadha is one of the commonly cultivated crops in the area and also gets fetch more price regularly. Further, it can be grown throughout the year without involving much risk. Therefore, farmers try to acquire more knowledge about the Ashwagadha to get assured maximum yield and income. The another reason for lack of knowledge about use of recommended fertilizer dose may be that, usually it is the tendency of farmers to follow the fertilizer dose what fertilizer dealers suggest and other neighbour farmers.

Further, Table 2 also reveals that, the respondents not having the knowledge about the following cultivation practices in order of priority such as: important pest, chemicals used to control pest, important diseases, fungicide used to control diseases (54.2%) and recommended NPK (42.8%), for cultivation of crop.

The reasons for this kind of results might be due to lack of or insufficient acquired knowledge about the crops due to their negligence and also usually the farmers tendency is that, whatever the fertilizer or input agencies and other farmer friends suggest they follow. Further, they might have thought that these are not the important practices to gain knowledge level among other farmers.

The data presented in Table 3 reveal that, more than half of the respondents had knowledge about detailed Patchouli cultivation practices in order of priority like: type of soil (100%), Seedling or rooted slips recommended (100%), time of sowing (100%), recommended varieties (94.2%), recommended NPK(91.4%), recommended FYM (91.4%), important pests, chemicals used to control pest, important diseases, fungicides used to control

**Table 3 : Practice wise knowledge level of cultivation practices of Ashwagandha and Patchouli**

Sr. No.	Cultivation practices	Ashwagandha				Patchouli			
		Known		Not known		Known		Not known	
		F	P	F	P	F	P	F	P
1.	Soil type	35	100.00	-	-	35	100.00	-	-
2.	Varieties recommended	35	100.00	-	-	33	94.2	2	5.74
3.	Seed rate or rooted slips / acre	35	100.00	-	-	35	100.00	-	-
4.	Time of sowing	35	100.00	-	-	35	100.00	-	-
5.	Recommended N P K fertilizer dose/acre	20	57.12	15	42.82	32	91.49	3	8.53
6.	Recommended FYM	35	100.00	-	-	32	91.49	3	8.53
7.	Important pests	16	45.73	19	54.21	28	80.00	7	20.00
8.	Chemicals for control of pests	16	45.73	19	54.21	28	80.00	7	20.00
9.	Important diseases	16	45.73	19	54.21	28	80.00	7	20.00
10.	Fungicides to manage diseases	16	45.73	19	54.21	28	80.00	7	20.00

\*Note: F- Frequency P- Percentage

diseases (80%).

The possible reasons for above findings might be due to the fact that, nearly half of the respondents were having better education and more extension participation. Because of this extension participation among the medicinal growers which might have promoted the respondents to acquire more knowledge about recommended practices of Patchouli.

Further, Table 3 also reveals that, the respondents were not having the knowledge about the following cultivation practices in order of such as: important pests, chemicals used to control pests, fungicides used to control diseases (20%), recommended NPK (8.5%), recommended FYM (8.5%), recommended varieties (5.7%).

The reasons for above findings might be that, because of farmers are having less education level and least participation in extension and exposure to mass media might have lead to this kind of out come. Hence, the findings have observed similar with the results of Sakharkar (1995).

The data presented in Table 4 reveal that more than half of the respondents had better knowledge about detailed Citronella cultivation practices in order of priority regarding: type of soil (100%), recommended varieties (100%), Seed rate or rooted slips (100%), time of sowing (100%), recommended NPK(100%), recommended FYM (100%), important pests (60%), chemical used to control pests (60%), important diseases (60%) and fungicides used to control diseases (60.%).

The possible reason for the kind of results might be due to the fact that, Citronella is commonly grown in the area and also fetches maximum price and the farmers are familiar with the simple practices which neither require extra special skill. As Citronella is one of the commonly grown crops in the area and also fetches more

comparatively price. The cost of cultivation is very less compared to all other aromatic plants and can be cultivated throughout the year. Therefore, every individual tries to acquire more knowledge about Citronella cultivation to get maximum yield with maximum returns.

Further, Table also reveals that, the respondents where not having the knowledge about the following cultivation practices in order of priority such as: important pests (40%), chemicals used to control pests (40%), important diseases (40%), Chemicals used to control diseases (40%), further, none of the farmers having knowledge about fallowing cultivation practices such as suitable type of soil, variety recommended, seed rate / acre, time of sowing, recommended NPK, fertilizer and recommended FYM.

The reasons for this kind of results might be due to lack of or insufficient knowledge about these due to their not participation in mass media and extension participation. Further, the extent of contact with extension personal also might be the result obtained out of this analysis.

Similarly, the data presented in Table 4 reveal that, more than half of the respondents had knowledge about detailed Lemongrass cultivation practices in order of priority with regard to: type of soil (100%), recommended varieties (100%), seed rate or rooted slips (100%), time of sowing (100%), recommended NPK(100%), recommended FYM(100%), important pests (62.8%), chemical used to control pests (62.8%), important diseases (48.5%), chemicals used to control diseases (48.5%).

The possible reasons might be due to the fact that, large number of respondents were having more contact with the extension participation and more exposure on mass media participation regarding aromatic plant growers which might have promoted the respondents to acquire more knowledge about recommended cultivation practices

**Table 4 : Practice wise knowledge level of cultivation practices of Citronella and Lemongrass**

Sr. No.	Cultivation practices	Citronella				Lemongrass			
		Known		Not known		Known		Not known	
		F	P	F	P	F	P	F	P
1.	Soil type	35	100.00	-	-	35	100.00	-	-
2.	Varieties recommended	35	100.00	-	-	35	100.00	-	-
3.	Seed rate or rooted slips / acre	35	100.00	-	-	35	100.00	-	-
4.	Time of sowing	35	100.00	-	-	35	100.00	-	-
5.	Recommended N P K fertilizer dose/acre	35	100.00	-	-	35	100.00	-	-
6.	Recommended FYM	35	100.00	-	-	35	100.00	-	-
7.	Important pests	21	60.00	14	40.00	22	62.81	13	37.14
8.	Chemicals for control of pests	21	60.00	14	40.00	22	62.81	13	37.14
9.	Important diseases	21	60.00	14	40.00	17	48.59	19	54.28
10.	Fungicides to manage diseases	21	60.00	14	40.00	17	48.59	19	54.28

\*Note: F- Frequency P- Percentage

of Patchouli.

Further, Table 4 also reveals that, the respondents not having less knowledge about the following cultivation practices in order of priority such as: important diseases (54.2%), fungicides used to control diseases (54.2%), important pests (37.1%), chemicals used to control pests (37.1%).

The reasons for the findings might be that, less education level and poor participation towards extension and mass media participation might have lead to this kind of performance among contract farmers.

### Conclusion:

On the basis of the findings, it could be concluded that the knowledge level of the respondents showed good sign of knowledge in both the medicinal and aromatic plants. It is due to the fact that the education level of farmers was good and they also showed interest towards contract farming because of high mass media exposure, and frequent contact with contract agency leading to their gain in knowledge.

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