

## Extent of adoption of improved cultivation practices in coconut in Chikmagalur district of Karnataka

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### ABSTRACT

The present study was conducted to know the personal, socio-economic status, adoption level and association between personal, socio-economic status with the adoption level of nursery practices of coconut growing farmers of Chikmagalur district. The study revealed that most of the respondents were middle aged (41-50 yrs.) having minimum education qualification with medium family size (7 to 10 members) and cent per cent of the farmers adopted recommended practices with regard to age of seedlings and majority adopted cultural practices, integrated disease and pest management, spacing and water management and neglected preventive measure and biological control of insect pest and diseases, IPM and IDM. The middle aged family size (7 to 10 members) of big farmers was significantly related to adoption level of nursery practices.

### INTRODUCTION

The coconut palm is a versatile plant with a variety of uses. Every part of it is useful to mankind in one or the other forms. It supplies food, drink and shelter and also raw materials for a number of industries. Coconut is frequently used in various ceremonies such as wedding, buildings and other commercial occasions. The dehusked nut possesses three distinct raw materials, such as wet meat or kernel (50%), water (17%) and shell (33%). The kernel or endosperm of the matured coconut is an important food in all the coconut growing countries. Apart from being used for culinary purposes, the milk or cream obtained by squeezing the grated kernel goes into preparations of commercial importance.

The liquid endosperm of tender coconut (seven months old) makes a popular refreshing drink. The tender coconut water is recommended in cases of gastroenteritis, diarrhoea, vomiting and against dehydration. It is also urinary antiseptic and eliminates poisons through kidneys in case of mineral poisoning. It has a caloric value of 17.4 per 100g of water. The coconut shell is used for making activated charcoal. The shell flour of 300 mesh made of coconut shell has a variety of uses in the organic industries.

Apart from the kernel, coconut water and

shell, the trunk of mature palm is used for houses in coconut growing areas and woven into baskets. Extent of adoption of improved cultivation practices among farmers is very much essential in order to improve their standard of living. Keeping this in view, the study was conducted for the analysis of personal, socio-economic characteristics of the coconut growers analyzed, estimation of extent of adoption of improved cultivation practices among big and small farmers and the relationship between personal, socio-economic characteristics of farmers with their adoption levels.

### METHODOLOGY

The study was conducted during the year 2007 to assess the adoption level of improved cultivation practices among big and small coconut growing farmers of Lakkammanahally, Hiregouja and Uddeboranahally villages of Chikmagalur district of Karnataka. 15 big farmers and 15 small farmers from each village were selected by random sampling. The total sample comprised the study was 90. The extent of adoption level among big and small coconut farmers with their relationship to personal, socio-economic characteristics were studied considering the eleven recommended practices of coconut cultivation viz., seed rate, quality

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of seed, nursery, age of seedlings, spacing, chemical fertilizer and water management; integrated pest and disease management including preventive, cultural, mechanical, biological and indigenous practices grading and yield. The personal and socio-economic characteristics considered were age (30- 40 years, 41-50 years, 51 years and above); educational qualification (illiterates, Primary and Middle School (1 to 7<sup>th</sup>), High School (8 to 10<sup>th</sup>), PUC and Graduation); family size (small- 1 to 6, medium- 7 to 10 members, large- 10 and above), land holding (small farmers- 2.5 to 5.0 acres), big farmers-(> 5.0 acres). The data of the respondents were collected by using pretested schedule and analyzed with suitable statistical tools.

## RESULTS AND DISCUSSION

The findings of the present study as well as relevant discussion have been summarized below:

### Age:

Majority of the coconut growers were in the age group of 41- 50 years (43.3 %), followed by 51 years and above (33.3%) and 30-40 years (23.3%). The respondents selected for this study were in the middle age group (Table 1) and the result is in line with Hanumanaikar *et al.* (2006).

**Table 1: Personal and socio-economic characteristic of the respondents (N=90)**

Sr. No.	Characteristics	Number	Percentage
1.	<b>Age</b>		
	30- 40 years	21	23.3
	41-50 years	39	43.3
	51 years and above	30	33.3
2.	<b>Educational qualification</b>		
	Illiterates	23	25.5
	Primary and Middle School (1 to 7 <sup>th</sup> )	16	17.7
	High School (8 to 10 <sup>th</sup> )	19	21.1
	PUC	14	15.5
	Graduation	18	20.0
3.	<b>Family size</b>		
	Small (1 to 6 members)	22	24.4
	Medium (7 to 10members)	43	47.7
	Large (10 and above)	25	27.7
4.	<b>Land holding</b>		
	Small farmers (2.5 to 5.0 acres)	45	50.0
	Big farmers (> 5.0 acres)	45	50.0

### Education:

25.5 per cent of the coconut growers were illiterates and 21.1 per cent had education up to High School (8-10<sup>th</sup>), 20 per cent were graduates, 17.7 per cent and 15.5 per cent completed Primary, Middle School and PUC, respectively. From the findings it was evident that nearly 75 % of the respondents had minimum educational qualification. The findings are corroborated with the results of Manjunath *et al.* (1999).

### Family size:

Major chunk of the respondents (47.7%) belonged to medium family size (7-10 members) followed by large (10 and above) and small (1 to 6 members). Hence, it was indicated that majority of the respondents were living in joint family.

### Extent of adoption:

As it could be observed (Table 2) that there was cent per cent adoption in the recommended practices with respect to age of seedlings usage by both big and small farmers. The other practices adopted by large number of farmers were cultural practices in integrated disease management (80%), spacing (77.7 %), water management (72.2 %), cultural practices in integrated pest management (71.1%). Majority of the farmers obtained better yield (83.3 %). Nearly half of the farmers adopted recommended practices with respect to seed rate, quality seed and indigenous technology in IPM and medium per cent of the farmers adopted practices *viz.*, mechanical method of diseases control (34.4%), preventive measures taken for pest control (33.3%), use of chemical fertilizers (26.6%), preventive measures in disease management (23.3%) and nursery management (15.5%). Negligible portion of farmers adopted mechanical method of pest control and grading the produce. Pest and disease management by biological method is very expensive and it involves more technical knowledge and not easily available to farmers. This might be the reason for the practice not being adopted. The result are in line with Siddaramiah *et al.* (1995) and Nagaraj *et al.* (2001).

### Influence of personal, socio- economic characteristics of respondents with their adoption level of nursery practices by big farmers:

#### Age:

15.5 per cent of the respondent farmers who adopted recommended nursery management practices belonged to the middle age group of 41-50 years (17.7%) followed by 51-and above (8.8%) and 30 to 40 years (4.4 %). Middle aged people are more enthusiastic and energetic,

**Table 2 : Extent of adoption of improved cultivation practices of coconut among big and small farmers (N= 90)**

Sr. No.	Name of the practice	Extent of adoption					
		Big farmers		Small farmers		Total	
		Number	%	Number	%	Number	%
1.	Seed rate	23	51.1	17	37.7	40	44.4
2.	Quality seed	17	37.7	22	48.8	39	43.3
3.	Nursery	14	31.1	0	0.0	14	15.5
4.	Age of seedlings	45	100	45	100	90	100
5.	Spacing	45	100	25	55.5	70	77.7
6.	Chemical fertilizer	11	24.4	13	28.8	24	26.6
7.	Water management	28	62.2	37	82.2	65	72.2
8.	Integrated pest management						
	Preventive	30	66.6	0	0	30	33.3
	Cultural	33	73.3	31	68.8	64	71.1
	Mechanical	13	28.8	0.0	0.0	13	14.4
	Biological	0	0	0.0	0.0	0	0.0
	Indigenous	30	66.6	16	35.5	46	51.1
9.	Integrated disease management						
	Preventive	21	46.6	0	0.0	21	23.3
	Cultural	44	97.7	28	31.1	72	80.0
	Mechanical	22	48.8	9	20.0	31	34.4
	Biological	0	0.0	0	0.0	0	0.0
	Indigenous	0	0.0	11	24.4	11	12.2
10.	Yield	43	95.5	37	82.2	80	88.8
11.	Grading	12	26.6	0	0.0	12	13.3

having risk bearing capacity, eager to learn and they are first in adopter categories. These factors have lead to adoption of nursery practices by major portion of the middle aged group of respondents (Table 3). These findings are in line with the findings of Govinda gowda *et al.* (2002), Shivalingaiah *et al.* (2002).

#### Education:

Majority of the nursery practices adopted respondents had graduation (13.33%), equal number of (6.6%) respondents had High School and PUC level of education followed by Primary and Middle School and illiterates. This clearly indicated that all farmers who adopted the nursery practices in coconut had minimum education qualification. Higher education level might have lead to subscription to agricultural magazines and news papers, exposure to electronic media, cosmopolitaness, frequent contact with research stations and extension functionaries and participation in extension activities conducted by KVK and developmental departments. This inturn has lead to acquisition of information from different sources, which has improved their knowledge level adoption and improved nursery practices. The observation corroborates with the findings of Gogoi and Phukan (2000).

#### Family size:

Majority of the nursery practices adopted respondents

**Table 3: Association between personal, socio-economic characteristic of respondents with the adoption level of nursery practice among big farmers (N-45)**

Sr. No.	Characteristics	Extent adoption			
		Adoption		Non adoption	
		Number	Per cent	Number	Per cent
1.	<b>Age</b>				
	30- 40 years	2	4.4	8	17.7
	41-50 years	8	17.7	7	25.5
	51 years and above	4	8.8	16	35.5
2.	<b>Education qualification</b>				
	Illiterates	0	0	12	26.6
	Primary and Middle School (1 to 7 <sup>th</sup> )	2	4.4	3	6.6
	High School (8 to 10 <sup>th</sup> )	3	6.6	4	8.8
	PUC	3	6.6	4	8.8
	Graduation	6	13.33	8	17.7
3.	<b>Family size</b>				
	Small (1 to 6 members)	2	4.4	19	42.2
	Medium (7 to 10 members)	3	6.6	7	15.5
	Large (10 and above)	9	20	5	11.1
4.	<b>Land holding</b>				
	Big farmers (> 5.0 acres)	14	31.1	31	68.8

belonged to large family (20.0%), followed by medium (6.6 %) and small (4.4%). It clearly shows that the nursery practices need more labour force. This might be the reason for adopting coconut nursery management by large family size (Table 3).

### Conclusion:

It is concluded from the study that majority of the respondents were middle aged group having minimum educational qualification with medium family size. Cent per cent of the respondents adopted recommended practices with respect to age of seedlings, cultural practices in IPM and IDM, spacing and water management and majority of the farmers obtained better yield. Where as middle aged group, Graduate farmers and large sized family were directly related to the adoption of recommended nursery practices among the big farmers.

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