



Knowledge level of farmers regarding recommended cultivation practices of mango

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ABSTRACT

The study on technological gap in adoption of recommended practices of mango cultivation was conducted in Dharwad district of Karnataka during 2008-09. In the present study, it was observed that 39.33 per cent of the mango growers belonged to medium level of knowledge about the recommended practices of mango cultivation with mean score of 36.82. Where as, 34.00 and 26.00 per cent of the mango growers belonged to the high and low knowledge levels with mean knowledge of 41.03 and 36.82, respectively. A lion share of the mango growers (96.00%) had correct knowledge of recommended varieties of mango. It was observed that 98.00 per cent of the mango growers were having correct knowledge about size of pits for planting mangoes (92.67%) and filling material used in pits (95.33%). With regard to soil, per cent of the respondents were aware of suitable soil for mango plantation and number of days pits should be exposed to the sun before planting (90.67%).

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INTRODUCTION

India has achieved self-sufficiency in food grain production and now the major concern is to achieve higher growth rate. The focus has now shifted from agriculture to horticulture which besides imparting nutritional security, offers a great potential for efficient input use, higher returns per unit area, crop diversification, foreign exchange earning and greater employment generation through post harvest processing in agro-industries. Fruit cultivation in India is one such major commercial and business sectors for exporting merchandise and shipping from which much of the international revenue is incurred.

Mango is considered as national fruit of India and it is termed as the "King of fruits". Major varieties of mangoes exported include Alphonso, Dashehri, Kesar, Banganapalli, Langra, Chausa, Mallika and Swarnarekha. The major markets for Indian mangoes comprise U.A.E., Bangladesh, U.K., Saudi Arabia and Nepal. Major cultivation and production areas are in the states of Andhra Pradesh, Uttar Pradesh, Karnataka, Bihar, Gujarat and Maharashtra.

METHODOLOGY

The study on technological gap in adoption of recommended practices of mango cultivation was conducted in Dharwad district of Karnataka during 2008-09. Dharwad district was purposely selected since it is having largest area under mango cultivation in northern Karnataka. Among five Talukas of Dharwad district, Dharwad Taluk has maximum area (2618 ha) under mango cultivation, followed by Kalaghatagi (715 ha), Hubli (668 ha) and Kundgol (114 ha). Hence Dharwad and Kalaghatgi Taluks were selected.

Proportionate random sampling technique was followed to select the appropriate sample size of 150. The data were collected by interview method by using well structured interview schedule. The data were analyzed using the statistical tools such as percentage, mean and standard deviation.

RESULTS AND ANALYSIS

The data of Table 1 revealed that 39.33 per cent of the mango growers belonged to medium level of knowledge about recommended practices of mango cultivation with a mean score of 36.82. Where as, 34.00

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and 26.67 per cent of the mango growers belonged to high and low knowledge levels with mean knowledge scores of 41.03 and 36.82, respectively.

A perusal of Table 1 revealed that 73.33 per cent of the mango growers belonged to medium to high level of overall knowledge regarding recommended mango cultivation practices. Mango cultivation requires awareness of specific cultivation practices. Almost 90.00 per cent of the mango growers were educated and their formal educational background must have exposed themselves to different mass media which provide the information about new technology. In addition, their profile characteristics like innovative proneness, risk orientation, extension participation, mass media participation, market orientation and economic motivation appeared to have influenced the overall knowledge level of the mango growers regarding recommended mango cultivation practices. The present finding is in conformity with the results of Srinivasareddy (1995) and Saravanakumar (1996).

Knowledge level of mango growers regarding specific recommended practices of mango cultivation:

It can be inferred from Table 2 that, a lion share of the mango growers (96.00%) had correct knowledge of recommended varieties of mango. Sixty two per cent of the respondents were having correct knowledge of high yielding varieties of mango. While, knowledge about early bearing varieties of mango was possessed by only 26.67 per cent of the respondents. It was observed 98.00 per cent of the mango growers were having correct knowledge about size of pits for planting mangoes and filling material used in pits (95.33%). With regard to soil, more than 90.00 per cent of the respondents were aware of suitable soil for mango plantation and number of days pits should be exposed to the sun before planting (90.67%). Correct knowledge about chemical used in the pit at the time of planting was possessed by almost three fourth of the respondents (74.00%).

All the mango growers had knowledge about correct time of planting mango grafts. Where as, a large majority

of the respondents were having correct knowledge about recommended spacing (94.67%), number of grafts required per acre (78.00%) and depth at which the graft is to be kept in the pit (66.67%).

With regard to their knowledge about the frequency of irrigation, slightly more than half of the respondents (55.33%) had correct knowledge about frequency of irrigation at early stages of growth of mango plants.

As high as 94.67 per cent of the mango growers were having knowledge about correct time for application of fertilizers. It was very discouraging to observe that a very negligible per cent of the respondents were aware of fertilizers recommended for 1 to 9 year's old tree (10.67%) and for more than 10 years old tree (10.00%).

In case of utilization of growth regulators only 28.00 per cent of the mango growers were aware of growth regulators recommended to prevent flower and fruit drop, while knowledge about chemical used to induce flowering was possessed by merely 25.00 per cent of the respondents.

With regards to plant protection measures, 96.67 per cent of the mango growers were having correct knowledge about major pests and their control measures and major diseases and their control measures (92.67%).

With regards to yield, more than 80.00 per cent of the respondents possessed correct knowledge about number of year's grafted plants take to bear fruits (87.33%) and number of years required to obtain economic yield (83.33%).

Respondents were found to have higher level of knowledge in practices such as time of planting (100.00%), pit size (98.00%), pests and their control measure (96.67%), recommended varieties (96.00%), correct time for application of fertilizers (94.67%), diseases and their control measures (92.67%), number of years grafted plants take to obtained economic yield (83.33%), number of grafts required per acre (78.00%), chemical used in the pit at the time of planting (74.00%) and high yielding varieties of mango (62.00%).

The above findings could be attributed to factors such as, higher education level of respondents, medium level of participation in activities like demonstration, training,

Table 1: Overall knowledge level of mango growers about recommended mango cultivation practices (n=150)

Sr. No.	Knowledge level	Respondents		Mean knowledge score
		Frequency	Percentage	
1	Low (<38.18)	40	26.67	36.82
2	Medium (38.18-39.93)	59	39.33	39.00
3	High (>39.93)	51	34.00	41.03

Mean=39.06, SD=2.05

Table 2 : Knowledge level of mango growers regarding individual recommended practices of mango cultivation (n=150)

Sr. No.	Statements	Known		Not-known	
		No.	%	No.	%
Varieties					
1.	Recommended varieties (Totapuri, Neelam, Alphonso)	144	96.00	06	04.00
2.	High yielding varieties of mango (Mallika, Totapuri, Alphonso)	93	62.00	57	38.00
3.	Early bearing varieties of mango (Banganapalli, Alphonso, Baneshan)	40	26.67	110	73.33
Land preparation					
1.	Suitable soil for mango plantation (Red soil with good drainage)	139	92.67	11	07.33
2.	Size of the pits for planting mangoes (1m x 1m x 1m)	147	98.00	03	02.00
3.	Number of days pits should be exposed to the sun before planting (30 days)	136	90.67	14	09.33
4.	Filling materials used in the pits (FYM - 25kg + top soil)	143	95.33	07	04.67
5.	Chemical used in the pit at the time of planting	111	74.00	39	26.00
Propagation practices					
1.	Time for planting mango grafts (June – July)	150	100.00	00	00.00
2.	Depth at which the graft is to be kept in the pit (15cm)	100	66.67	50	33.33
3.	Number of grafts required per acre (40 grafts)	117	78.00	33	22.00
4.	Recommended spacing (10m x 10m)	142	94.67	08	05.33
Irrigation					
1.	Frequency of irrigation at (early stages) (Once in a week)	83	55.33	67	44.67
Manures and fertilizer application					
1.	Correct time for application manures and of fertilizers (June – July)	142	94.67	08	5.33
2.	Fertilizers recommended per tree (1-9years old) (N: P: K - 75:20:70 gm/plant + FYM - 25kg/plant)	16	10.67	134	89.33
3.	Fertilizers recommended per tree (>10years old) (N: P: K - 750:200:700 gm/plant + FYM-25kg/plant)	15	10.00	135	90.00
Use of growth regulators					
1.	Chemical used to induce flowering (Paclbutrazol (Coltar) (2ml/tree)	38	25.00	112	74.67
2.	Growth regulators recommended to prevent flower dropping and fruit dropping (Nitrobenzine-20% and Naphthalene acetic acid (NAA)	42	28.00	108	72.00
Plant protection measures					
1.	Major pests and their control measures Mango hopper: Carbaryl, Endosulphan, Monocrotophos Stem borer : Spraying with kerosene, picking up larvae with needle	145	96.67	05	3.33
2.	Major diseases and their control measures (Powdery mildew: Sulphur , Bavistin)	139	92.67	11	07.33
Yield					
1.	Number of years grafted plants take to bear fruits (3 to 4 years)	131	87.33	19	12.67
2.	Number of years required to obtain economic yield (6 years)	125	83.33	25	16.67

exhibitions, use of mass media, literatures. The other factors may be that mango is grown traditionally and its most of the cultivation practices are known to the growers. Mango orchards are grown and established from generation to generation in the study area. This must helped the growers to know the basic practices of mango cultivation. It was mainly concerned with development and dissemination of agriculture technologies in the northern parts of Karnataka. Moreover, growers were observed to have linkage with fellow farmers from other

states and UAS Dharwad scientists for technical guidance. All these factors must have helped them to acquire minimum knowledge regarding cultivation practices of mango. The above findings are in consonance with the observations made by Thorat (2003) and Moulasab (2004).

Relationship between characteristics of respondents and their knowledge level:

The results presented in Table 3 revealed the

relationship of independent variables with knowledge level of the respondents about recommended mango cultivation practices. Out of 10 variables studied, the variables like education, extension participation, innovative proneness and mass media participation exhibited positive significant relationship with knowledge level of mango growers. The variables age, orchard size, cosmopolitaness, risk orientation, economic motivation and market orientation showed positive but non-significant relationship with knowledge level of mango growers.

Findings in Table 3 enlightened that out of 10 variables, 4 variables were found to be positively significant in

Table 3 : Relationship between the characteristics of mango growers and knowledge (n=150)

Sr. No.	Variable	'r' value
1.	Age	0.011 ^{NS}
2.	Education	0.183*
3.	Orchard size	0.136 ^{NS}
4.	Innovative proneness	0.171*
5.	Risk orientation	0.096 ^{NS}
6.	Market orientation	0.154 ^{NS}
7.	Economic motivation	0.149 ^{NS}
8.	Extension participation	0.206*
9.	Mass media participation	0.177*
10.	Cosmopolitaness	0.121 ^{NS}

NS: Non-significant

* indicates signification of value at P=0.05

influencing the knowledge level of the respondents about recommended practices of mango cultivation. They are education, extension participation, innovative proneness and mass media participation. As discussed in the preceding part of this chapter, each of these variables have considerable influence on the knowledge level of recommended mango cultivation practices of the respondents and hence the results.

It is of the general opinion that education of the farmers favours acquisition of knowledge and widens the horizon of knowledge by proper understanding of the

importance of recommended cultivation practices by getting exposed to extension agencies and contacting other informal sources. It means that these variables play an important role in acquiring knowledge of mango cultivation. This implies that farmers who had favourable orientation towards new technology (*i.e.*, mango cultivation), would like to know new ideas to adopt and got higher exposures to different mass media, had better opportunities to expose to contrived experiences, look for credit and look for delayed but complete satisfaction which ultimately leads into higher information seeking and acquiring behaviour.

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