

A Study on Knowledge and Adoption of Post Harvest Technology in Mango Crop*

Mango (*Mangifera indica* L.) is eulogized as the king of fruits. It belongs to the dicotyledonous family *Anacardiaceae*. It is believed that the fruit originated from India and its cultivation has been traced back to more than 6000 years in the past. Groves and gardens of mango find mention in descriptions in the epics *Ramayana* and *Mahabharata* also. Mango is grown in all tropical countries (Anon., 2000). They are also a rich source of Beta-carotene, the precursor of vitamin-A, which is essential for the prevention of night blindness in human beings and rich source of vitamin-C also (Saravankumar, 1996). The post harvest losses in developing countries have been reported to vary between 15 to 50 per cent (Subramanyam, 1986). In order to avoid the loss after the harvest, to maintain the quantity and nutritive value of the produce the post harvest technology has assumed greater importance. Importance of post harvest technology lies in the fact that, it has capability to meet fruit requirement of growing population by eliminating avoidable loss making more nutritive fruit items from low grade raw commodity by proper processing. The present investigation therefore was conducted to study the knowledge and adoption level of farmers about post harvest technologies. Dharwad and Belgaum districts of Northern Karnataka were purposively selected for the study as they ranked first and second in area under mango cultivation (3130 and 2974 ha, respectively) and mango production (39,657 and 36,241 tonnes, respectively) in the state.

Two talukas namely Dharwad and Khanapur were selected from each selected division based on the criteria of maximum area under mango crop. The total revenue villages for this study were, 6, from each village 20 farmers were selected randomly following the criteria that

selected farmers should have at least three years of experience in mango cultivation. Thus, total respondents identified for the study was 120. The knowledge and adoption level of post-harvest technology was measured by using the structured schedule, developed for mango farmers, after consultation with mango experts, Department of Horticulture, Department of Agronomy and Extension Personnel of University of Agricultural Sciences, Dharwad. Seven recommended post harvest technologies of mango crop were included in the schedule and responses were recorded. Later frequency and percentages were calculated for each post harvest technologies.

The results presented in table 1 indicated that cent per cent of the respondents had knowledge about post-harvest technologies like manual harvesting, sorting and cleaning (hand picking), packing (using polythene bag), storage (on the ground), transportation (cart, head load, tractor and lorry) and processing. Majority of the mango growers had knowledge about other post-harvest technologies like doti method of harvesting, manual grading based on size and colour of the fruit, cold storage, using polythene bags, paper bags for packing material. The possible reason could be these post-harvest technologies are commonly practiced in the research study areas and majority of the mango growers were educated and had varying degree of extension contact. The knowledge about post-harvest technology with respect to using mechanical means for harvesting (25.00%), using mechanical means for sorting (12.5%), scientific grading (23.33%), porous packing (20.83%) was low. The possible reason could be lack of technical guidance about post-harvest technology.

The results presented in table 1 revealed that majority of the respondents (79.16%) followed manual harvesting by labourers. This was

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Table 1. Knowledge and adoption level of mango growers about post-harvest technologies

Sl. No.	Particulars	Knowledge		Adoption	
		Frequency	Per cent	Frequency	Per cent
1.	Harvesting				
	a. Manually	120	100.00	95	79.16
	b. Mechanical means	30	25.00	-	-
	c. Doti method	62	51.66	25	20.83
2.	Sorting and cleaning				
	a. Hand picking	120	100.00	18	15.00
	b. Mechanical means	15	12.50	-	-
3.	Grading				
	a. Scientific grading by using recommended size/weight	28	23.33	-	-
	b. Manual grading based on the size of fruits/colour	80	66.66	05	4.16
4.	Packing				
	a. Polythene bag/polythene impregnated bag	91	75.83	-	-
	b. Jute bag/cloth bag/	120	100.00	-	-
	c. Paper bag/plastic laminated	85	70.83	05	4.1
	d. Trays/porous packing	25	20.83	08	6.66
5.	Storage				
	a. Cold storage	98	81.66	-	-
	b. On the ground itself	120	100.00	-	-
6.	Transportation				
	a. Cart	120	100.00	15	12.50
	b. Head load	120	100.00	-	-
	c. Tractor	120	100.00	07	5.83
	d. Truck/lorry	120	100.00	98	81.66
7.	Processing				
	a. Juice	70	58.33	18	15.00
	b. Pickle	120	100.00	25	20.83

* Multiple responses obtained

because of common practice in the study area, while only 20.83 per cent farmers harvested by using doti harvesters, because it requires more labour and time consuming compared to manual harvesting. None of the respondents adopted mechanical means for adoption, which was mainly due to lack of knowledge, lack of technical guidance about harvesting and non-availability of improved harvesting tools. Another reason might be majority of the mango growers fall under medium risk orientation category.

It is interesting to know that only 15.00 per cent of the respondents followed hand sorting. And none of the respondents followed mechanical means of sorting and cleaning. This was due to time constraint and this process was laborious, lack of knowledge and difficulty in getting timely labour.

Only 4.16 per cent of respondents followed poor adoption of grading because of lack of awareness about the market value generated

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by grading high cost of labours and difficulty in getting timely labour. Only a few mango growers i.e., 4.10 and 6.66 per cent were used paper bag/plastic bag and trace/porous packaging, respectively. This was mainly due to non-availability of packing materials and high cost of packing materials.

Cent per cent of the respondents stored their produce on the ground itself. This was mainly because of lack of finance assistance from government, private agencies and concerned departments to establish cold storage and this is the common practice of storage in the villages and it was easy method. None of the respondents

used cold storage. There was no cold storage facilities at the village level in the study area.

Majority of the respondents (81.66) used truck for transportation, while only 12.50 and 5.83 per cent used bullock cart and tractor for transportation, respectively, which was mainly due to these were cheaper, safely and huge quantity can be transported for long distance. Even though, the respondents had good knowledge about processing, but only 15.00 and 20.83 per cent of them followed the processing of juice and pickle making, due to absence of specific market for value added mango products.

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