Journal of Pharmacognosy and Phytochemistry

Satyendra Kumar Singh
Research Scholar
Department of Extension
Education, Institute of
Agricultural Sciences, BHU,
Varanasi (U.P), India

A. K. Singh
Professor
Department of Extension
Education, Institute of
Agricultural Sciences, BHU,
Varanasi (U.P), India

Factors affecting the extent of adoption about mango post-harvest management practices

Satyendra Kumar Singh and A. K. Singh

Abstract
Fruits are of great importance in human nutrition. India is the second largest producer of fruits. Mango is world's leading fruit-crop. India occupies 1.62 million hectares area under mango fruit with a production of 12.78 million tonnes, which is 37.6 per cent of total production under fruits. Malihabad and Mal block were selected on the basis of maximum area under mango cultivation. Twenty villages having maximum area under mango cultivation were selected from each identified blocks. The result shows that majority of the respondents adopted mango cultivation technologies at medium level. The level of adoption was noted hight in the category of literate farmers. This may be on account of possession of high extent of knowledge by the mango growers who are treated as literates in the present investigation. It was also found that there was a highly significant difference in level of adoption between about mango cultivation technology. The study showed that majority of mango growers were dominated in medium category of adoption.

Introduction
Mango is world's leading fruit-crop. In general, mango is consumed as dessert fruit. Its demand is increasing day by day because of its high nutritive value. Looking to the importance of mango fruit, it is essential that farmers of the state should be motivated for decision to adopt recommended cultivation on a large scale. Mango has been cultivated, praised and even revered in its homeland since ancient times. Mango is originally native to southern Asia, specially Eastern India, Burma and the Andaman Islands. Buddhist monks are believed to have taken the mango on voyages to Malaya and Eastern Asia in the 4th and 5th Centuries BC. Persians are said to have taken mangoes to East Africa around the 10th Century AD. The fruit was grown in the East Indies before the earliest visits of the Portuguese who apparently introduced it to West Africa in the early 16th Century and also into Brazil. Mango (*Mangiferaindica*), the "King of fruits" is the most important fruit of India is cultivated in a larger area i.e., 2.516 million ha. and the production of around 18.431 million tons source ((Horticultural Statistics at a Glance 2015). The major mango producing states in India are Uttar Pradesh (23.47%), Andhra Pradesh (15.23%), Telangana (9.71), Karnataka (8.89%), Bihar (6.87) etc. source (NHB 2014-15). Uttar Pradesh is the leading mango producing state in 2013 with an area of 0.274 million ha. and production of 4.39 million tones. India produces 18.431 million tones of mango from an area of 2.516 million hectare have the share of 38 per cent area and 21.70 per cent production of major fruits (Horticultural Statistics at a Glance 2015). Post harvest management practices are inter disciplinary "Science and Technology" applied to mango after harvest for its protection, conservation, processing, packaging, distribution, marketing and utilization to meet the nutritional requirements of the people in relation to their needs. Importance of post harvest management practices in mango lies in the fact that it has the capability to meet requirement of growing population by elimination losses, making more nutritive items from its pulp by proper processing and fortification. The postharvest losses in mangoes have been estimated in the range of 25-40 per cent from harvesting to consumption published by Universal Multidisciplinary Research Institute. If proper methods of harvesting, handling, transportation and storage are adopted, such losses could be minimized. The adoption has been recognized as one of the most important component of human behavior, which gives impetus to adopted technology. The adoption in the present context has been conceptualized as the amount of information about currently recommended practices adopted by the mango growers.

Matarials and Methods
The present study was conducted in Malihabad Block & Mal Block of Lucknow. These Blocks

Correspondence
Sanoj Kumar
Department of Agricultural
Engineering, Bihar Agricultural
College, Sabour, Bhagalpur,
India

were selected purposively on the basis of maximum area under mango cultivation in the Uttar Pradesh.

The selection of Blocks, a complete list of all the Blocks of both the identified districts where the mango fruit is being grown extensively was prepared. For selection of villages, twenty villages having maximum area under mango cultivation were selected from each identified blocks. To select the respondents, mango growers was prepared with the help of village Patwari and Agriculture supervisor of respective villages. The list so prepared, mango growers were selected proportionate random sampling technique from each identified village. The extent of adoption between recommended post harvest practices and actual adoption to the respondents at the time of investigation, farmers were individually interviewed. The questionnaire consisted close questions, all of which were translated into the local language. Appropriate statistics are used to draw inferences accordingly. Thereafter, data were collected from the selected respondents by personal interview technique. Data so collected were analysed, tabulated and interpreted in the light of the objectives of the study.

Table 1 clearly indicates that there were majority of respondents (59.50%) medium category of adoption, followed by (27.50%) respondents high and (13%) respondents belong to low category of extent of adoption respectively. The mean score (21), minimum score and maximum score was observed (4) and (38) score respectively. Almost similar finding was also reported by Manvar, et al. (2003) [3], Ranichandra and Theodore (2007) [4] and Mahadik et al. (2008) [5].

Table 1: Distribution of respondents according to extent of adoption about mango growers N=200

S. No.	Categories (score)	Respondents	
		Frequency	Percentage
1	Low (up to 12.67)	26	13
2	Medium (12.67 to29.33)	119	59.50
3	High (29.33 and above)	55	27.50
	Total	200	100.00

Mean = 21,　　S.D. = 8.33,　　Min. = 4,　　Max = 38

Table-2 & figure-1 clearly indicates that there were (67.92%) adoption of packaging practices, followed by (65.93%) harvesting, (55%) grading, (48.41%) marketing, (37.66%) processing, (37.20%) storage and (35.70%) adoption of transportation practices respectively, similar finding of harvesting practice was also reported by Deshmukh *et al.* (1998) [1], near to similar finding of grading was also reported by Kumar, S.G.M. (2004) [2].

Table 2: Percentage of adoption score to different post harvest practices

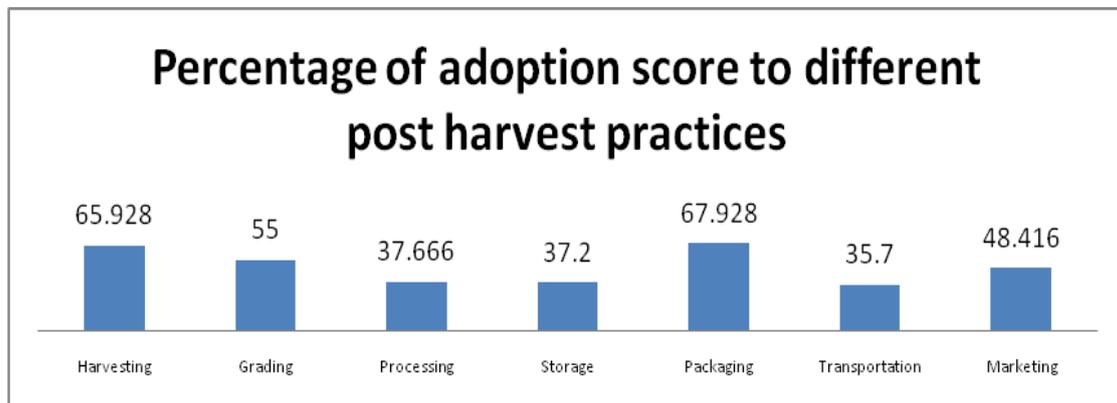| S. No.	Particulars	Percentage	Rank
1	Harvesting	65.93	II
2	Grading	55.00	III
3	Processing	37.66	V
4	Storage	37.20	VI
5	Packaging	67.92	I
6	Transportation	35.70	VII
7	Marketing	48.41	IV

Fig 1:

Table 3: Correlation coefficient (r), extent of adoption between different socio economic variables

S. No	Independent Variables	Correlation coefficient (r)
1	Education	.909**
2	Land holding	.674**
3	Family annual income	.630**
4	Extension participation	.788**
5	Experience in mango cultivation	.188*
6	Achievement motivation	.672**
7	Economic motivation	.633**
8	Source of information	.887**
9	Marketing facility	.795**
10	Post harvest practices	.258**
11	Risk orientation	.817**
12	Decision making pattern	.871**
13	Innovativeness	.872**
14	Training	.784**

*Significant at 0.05 probability level = 0.195
** Significant at 0.01 probability level = 0.254

The Table-3 clearly indicate that variables like education, land holding, family annual income, extension participation, achievement motivation, economic motivation, source of information, marketing facility, post harvest practices, risk orientation, decision making pattern, innovativeness and training wore found highly significant and positive relationship with the extent of adoption of the respondents, where as the relationship with the experience in mango cultivation, was moderately significant and positive correlation with respect to adoption level of respondents. This conclusion reveals that out of all independent variables, only one variable was moderately significant and rest of all variable were found highly significant nature influenced the extent of adoption. Almost similar finding was also reported by Bandyopadhyay *et al.* (2013) [6].

Conclusion
It can be concluded that 59.50 per cent of mango growers had medium level of adoption, whereas, 27.50per cent respondents were reported from the group of low adoption

level and 17.50 percent respondents were in the high adoption level and13.0o per cent mango growers belong to low category of extent of adoption respectively. It was further noted that there was a significant difference in level of adoption between mango growers.

References
1. Deshmukh PR, Wargikar SD, Wakle PS. Knowledge and adoption of recommended cultivation practices of custard apple, Maharashtra. J Extn. Edun. 1998; XVII:279-284.
2. Kumar SGM. A study on farmers knowledge and adoption of production and post-harvest technology in tomato crop of Belgaum district in Karnataka. M. Sc. (Agri.) Thesis, Univ. Agric. Sci., Dharwad, Karnataka (India), 2004.
3. Manvar VS, Wakle PK, Raul US, Shinde GB. A study on knowledge and adoption of recommended package of practices of mango by farmers in Marathwada region. Journal of Soils and Crops. 2003; 13(2):282-285.
4. Ranichandra M, Theodore RK. Impact of drought on mango growers in Krishnagiri district of Tamil Nadu. *Crop Research (Hisar).* 2007; 33(1/3):152-156.
5. Mahadik RP, Mehta PG, Patil VG. Adoption of recommended mango cultivation technology by mango growers. Karnataka Journal of Agricultural Sciences. 2008; 21(2):314-315.
6. Bandyopadhyay DR, Kumar A, Ghosh A. A study on the adoption behaviour of Mandarin orange (Citrus reticulata) cultivators in some selected areas of Darjeeling district of West Bengal. Journal of Interacademici. 2013; 17(3):561-566.