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Factors affecting the extent of knowledge about post-harvest management practices; in mango fruits

Satyendra Kumar Singh, AK Singh and Sneha Singh

Abstract

At present, India is the second largest producer of fruits in the world. Diversified agro climate across the country provides a unique advantage for fruit production through extended period of availability and differential quality. Mango is the king of fruits. In India, Lucknow is playing a vital role in import and export of mango. 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. The majority of respondents 68 percent were found having medium level of knowledge, 8.50 percent respondents who were low and 23.50 percent high level of knowledge respectively, the majority of mango growers have 92.25 percent knowledge along with grading practice. This conclusion reveal that out of 14 variables, only one variable was moderately significant and rest of all variable were found greatly significant nature influenced the extent of knowledge. The study shows that majority of mango growers were dominated in average category of knowledge.

Keywords: Mango post-harvest practices, mango growers, Knowledge of mango growers

Introduction

Mango has been cultivated, praised and even reputable in its mother country since ancient time. Mango is originally indigenous to southern Asia, specially Eastern India, Burma and the Andaman Islands. Buddhist monks are convinced to have taken the mango on voyages to Eastern Asia and Malaya in the 4th and 5th Centuries BC. Persians said to have taken mangoes to East Africa around the 10th Century AD. The mango fruit was cultivated in the East Indies before the earliest visits of the Portuguese who evidently introduced it to Western Africa in the early 16th Century and also into Brazil. Mango (*Mangifera indica*), the "King of fruits" is the vital fruit of India is grown in a larger area i.e., 2.516 million ha. and the production of fruit is around 18.431 million tons. Source. 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 most top mango producing state in 2013 with an area of 0.274 million hectares 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. 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 according to their needs. Importance of post-harvest.

management practices in mango decline in the fact that it has the potential to meet requirement of growing population by eradication losses, making more nutritive values from its pulp by proper processing and fortification. The postharvest losses in mangoes have been calculated in the range of 25-40 per cent from harvesting to consumption published by Universal Multidisciplinary Research Institute. If appropriate methods of harvesting, handling, transportation and storage are adopted, such losses could be minimized. The knowledge has been accepted as one of the most important element of human behavior, which gives stimulus to adopt a technology. The knowledge in the present context has been conceptualized as the amount of information about presently recommended practices known to the farmers.

Materials and methods

Out of eight communities development blocks in Lucknow district. The Malihabad and Mal block was selected purposively on the basis of highest area and production. These two blocks ten villages were selected in each of the block. Villages of Malihabad Block were selected 1. Karamandi kala, 2. Katouli, 3. Kasmanda khurd, 4. Hamirapur, 5. Sherpur shesha, 6. Nadinagar, 7. Sendharwa, 8. Ramai kala, 9. Kanar, 10. Rusouna. Villages of Mal Block were selected 1. Aumau, 2. Atari, 3. Ahinder, 4. Umarabal, 5. Kamalpur lodhaura, 6. Khandasara, 7. Jamoliya, 8. Tilan, 9. Dhari and 10. Narayanpur, through random sampling techniques. At the last stage of sampling, the list of respondents was prepared separately and 200 mango growers through proportionate random sampling technique. The extent of knowledge about mango post-harvest was calculated by using questionnaire which consisted close questions.

Table-1 clearly indicates that there were majority of respondents belong to (68%) medium category, followed by (23.50%) respondents high and (8.50%) respondents belong to low category extent of knowledge respectively. The mean of scores was found to be 32.10 with a range of minimum and maximum score was observed 16 and 46 respectively almost similar finding was also reported by Jadhav *et al.* (2010) [1], and Moulasab *et al.* (2006) [2].

Table 1: Distribution of mango growers according to extent of knowledge N=200

S. No.	Categories (score)	Respondents	
		Frequency	Percentage
1	Low (up to 23)	17	8.50
2	Medium (23 to 41)	136	68.00
3	High (41 and above)	47	23.50
Total		200	100.00

Mean = 32.10, S.D. = 8.98, Min. = 16, Max = 46

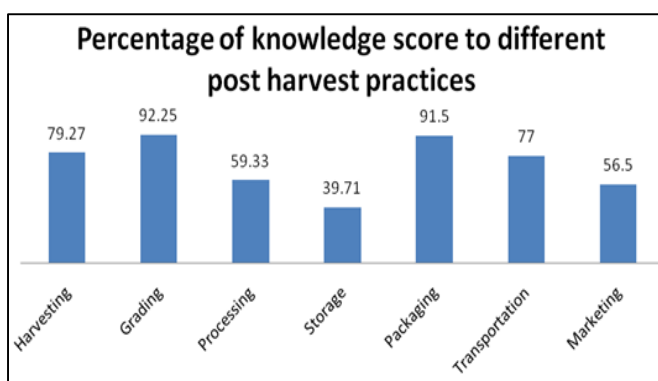


Fig 1: Percentage of knowledge score to different post harvest practices

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

S. No.	Particulars	Percentage	Rank
1	Harvesting	79.27	III
2	Grading	92.25	I
3	Processing	59.33	V
4	Storage	39.71	VII
5	Packaging	91.50	II
6	Transportation	77.00	IV
7	Marketing	56.50	VI

The Table-2 & figure-1 clearly indicates that there were highest knowledge percent (92.25%) about grading practices, followed by (91.50%) packaging, (79.27%) harvesting, (77%) transportation, (59.33%) processing, (56.50%) marketing and (39.71%) knowledge about storage practices respectively. The related finding of grading (95%) and harvesting (79.27%) by Achut, storage, grading and packing Manwar *et al.* (2013) and different finding of harvesting practice by Ranganna *et al.* (2009) [3] respectively.

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

S. No.	Independent variables	Correlation coefficient (r)
1	Education	.915**
2	Land holding	.648**
3	Family annual income	.601**
4	Extension participation	.707**
5	Experience in mango cultivation	.179*
6	Achievement motivation	.645**
7	Economic motivation	.582**
8	Source of information	.880**
9	Marketing facility	.800**
10	Post harvest practices	.290**
11	Risk orientation	.836**
12	Decision making pattern	.875**
13	Innovativeness	.908**
14	Training	.751**

*Significant at 0.05 probability level = 0.195

** Significant at 0.01 probability level = 0.254

The Table-3 clearly signify 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 were found highly significant and positive relationship with the extent of knowledge of the respondents, where as the relationship with the experience in mango cultivation, was moderately significant and positive correlation with respect to knowledge level of respondents, almost similar finding was also reported by Bandyopadhyay *et al.* (2013) [4], Singh *et al.* (2011) [5] and Mazumder *et al.* (2011) [6].

Conclusion

Postharvest management is a set of post- production practices that includes: cleaning, washing, selection, grading, disinfection, drying, packing and storage. These eliminate undesirable elements and advance product appearance, as well as ensuring that the product complies with established quality standards for fresh and processed products. The result of this study revealed that, majority of respondents belong to (68%) medium category, followed by (23.50%) respondents high and (8.50%) respondents belong to low category extent of

knowledge respectively. The mean of scores was found to be 32.10 with a range of minimum and maximum score was observed 16 and 46 respectively. This conclusion reveals that out of all variables, only one variable was moderately significant and respite of all variable were found highly significant nature influenced the extent of knowledge.

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