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Knowledge extent of management practices about mango cultivation in Saharanpur district (U.P.)

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Abstract

This study was conducted in Rampur Maniharan Block of district Saharanpur selected purposively. A total number of 100 Mango growers were selected through random sampling from five villages. The structured schedule was developed keeping in view the objectives and variable to be studied. The respondents were contacted personally for data collection. Out of 10 cultivation practices i.e. agricultural practices of Mango cultivation, Field preparation (87.56%) was rank at 1st as far as knowledge possessed by the respondents was concerned. The practice Fertilizer application rank at 2nd (85.45%), followed by High yielding varieties at rank 3rd (76.56%), Intercropping and weed management at rank 4th (67.45%), Irrigation management at rank 5th (66.21%), Plant protection measures at rank 6th (61.23%), Harvesting and marketing at rank 7th (59.11%), Transplanting at rank 8th (48.43%), Recommended spacing at rank 9th (45.09%) and Plant growth regulators at rank 10th (25.89%), respectively.

Keywords: Knowledge, mango, practices, and production

Introduction

Mango (*Mangifera indica*L.) is one of the most important fruit of India and as the “king of fruits”. It belongs to the family *Anacardiaceae* and genus *Mangifera* and species *indica*. It is indigenous to Indo-Burma region. It is under cultivation in India for more than 4000 years and hence conspicuous bonds have been between the fruit and cultural history of the country. India still dominates the world mango production and rank first with a total production of 18431.0 thousand Million tonnes from an area of 2516.0 thousand ha. In India, mango is cultivated almost all the states, where as Uttar Pradesh is leading state in production with 4300.98 thousand Million tonnes from an area of 262.16 thousand ha. (NHB Data base, 2014) [3]. India has the richest collection of mango cultivars. Mango is recognized as one of the choicest and well accepted fruit all over the world due to its taste, flavour, attractive color and nutritive value. It plays important role in balancing the diet of human being by providing about 64-66 calories per hundred grams of ripe fruits. It is a good source of vital protective nutrients like vitamins such as vitamin A (1400 I.U.), and C. Mango fruit contains 73.0-86.7 per cent moisture, 11.6-24.3 per cent carbohydrate, 0.3-1.0 per cent protein, 0.1-0.8 per cent fat, 0.3-0.7 per cent mineral, 650-25900 µg vitamin ‘A’ and 3-83 mg vitamin ‘C’ per 100 gram fruit. Seed kernels contain 9.5 per cent protein, 8-12 per cent fat, 79.2 per cent starch, 2 per cent mineral matter and 2 per cent fibers (Dock Worth, 1979 and Amin and Hanif, 2002) [2, 1]. Raw fruits are also used for making chutney, amchur, pickles and juices. The ripe fruits are also utilized for preparing several productions like ready to serve, nectar, squash, panna syrup, mango leather, mango powder, toffee, jams, jelly etc. The farmers had medium level of knowledge about different farm practices of mango such as grafting technique (87.00%), recommended size of pit for mango cultivation (77.00%), maturity indices of mango fruits (87.00%) reasons for harvesting fruits with their stalks (63.50%) and reasons for the removal of loran thus weed from tree (85.50%). The majority possessed knowledge about ideal time for harvesting (87.50%), use of fruit pickers for harvest (77.50%), importance of grading and packing (72.50%). Moderately more number of respondents possessed knowledge of fruit packing (67.50%), transportation method (64.17%), and washing of fruits (52.50%) and causes of post-harvest losses (48.33%). The distribution in adoption of individual practices highlight that high percentage (95.00%) of respondents was found to adopt recommended variety, followed by recommended method of harvesting (71.62%) and time of harvesting (52.57%). (Modi *et al.* 2010) [4] the results of simple correlation revealed that the knowledge and adoption of post-harvest management practices were significantly determined by risk orientation, achievement motivation and economic motivation.

Methodology

Saharanpur district was selected purposely for the study under taken. Another reason for its selection is the close familiarity of investigator with respect to area, people, officials, etc. The Saharanpur district is located in the western plain zone of Uttar Pradesh. It is considered to be the most climatically suitable area for Mango practices. The analysis of data was done with the use of correlation coefficient to collection. The percentage, mean and standard deviation was also used for drawing the inference. Knowledge about the scientific practices of farmers in Mango cultivation using the knowledge test developed by the investigator and used. The modifications in the existing knowledge test were in relation to item regarding scientific practices in Mango cultivation technology. All the question for knowledge was dichotomized having two dimension yes/no, if the answer was yes the respondents was assigned 1 score and if answer was no, the respondents was assigned 0 score. The study was carried on knowledge and adoption of scientific Mango cultivation practices among farmers. The range of scores obtained by the respondents might vary in low, medium and high range in the knowledge test which indicated the knowledge level of the respondents. It was categorized into three categories viz., (I) Mean-S.D. (II) Mean \pm S.D. (III) Mean \pm S.D., respectively.

It was viewed for the study of extent of knowledge of new Mango cultivation practices. The adoption of farm practices by individual farmer, however, is a topic which has large number of studies. (Singh *et al.* 2010) [5] has enumerated a number of studies on this topic. The similar findings were also reported by (Yadav and Sharma, 2007) [7]. The extent of knowledge of scientific mango cultivation practices was worked out for individual respondent for all practices.

Results and discussion

It is obvious from the Table-1. That among all 10 agricultural practices of Mango cultivation, Field preparation (87.56%) was rank at 1st as far as knowledge possessed by the respondents was concerned. The practice Fertilizer application rank at 2nd rank (85.45%), followed by High yielding varieties at rank 3rd (76.56%), Intercropping and weed management at rank 4th (67.45%), Irrigation management at rank 5th (66.21%), Plant protection measures at rank 6th (61.23%), Harvesting and marketing at rank 7th (59.11%), Transplanting at rank 8th (48.43%), Recommended spacing at rank 9th (45.09%) and Plant growth regulators at rank 10th (25.89%), respectively. The overall knowledge index was calculated to be 62.30%.

Table 1: Extent of knowledge about scientific Mango cultivation practices. (N = 100)

S. No.	Orchard management practices	Per cent	Ranks
1.	Field preparation	87.56	I
2.	High yielding varieties	76.56	III
3.	Transplanting	48.43	VIII
4.	Recommended spacing	45.09	IX
5.	Fertilizer application	85.45	II
6.	Plant growth regulators	25.89	X
7.	Irrigation management	66.21	V
8.	Intercropping and weed management	67.45	IV
9.	Plant protection measures	61.23	VI
10.	Harvesting and marketing	59.11	VII
	Overall percentage	62.30	

Table-2 focuses that out of 17 variables studied, the variables i.e. Adoption extent of scientific Mango cultivation practices, education, housing pattern, land holding, material possession, extent of contact was found highly significant and positively correlated with knowledge extent. The variable like occupation and social participation were found significant and positively correlated. The variable like annual income, innovativeness, economic motivation, scientific orientation and risk orientation were found positively correlated knowledge extent. The variable like size of family was found

highly significant and negatively correlated with knowledge extent. The variable like type of family was found significant and negatively correlated with knowledge extent. The variable like age, marital status and caste were found negatively correlated knowledge extent. Those variables which showed the positive and significant relationship had direct influence over knowledge extent about Mango cultivation practices. It meant that if the values of these variable increases, the knowledge extent of cultivation practices will also increase.

Table 2: Correlation coefficient (r) between different variables and Knowledge about scientific practices of farmers in Mango cultivation.

S. No.	Variables	Correlation Coefficient
1.	Adoption extent of scientific Mango cultivation practices	0.633**
2.	Age	-0.193
3.	Education	0.495**
4.	Marital status	-0.021
5.	Caste	-0.051
6.	Type of family	-0.215*
7.	Size of family	-0.289**
8.	Housing pattern	0.278**
9.	Land holding	0.029**
10.	Occupation	0.219*
11.	Annual income	0.152
12.	social participation	0.207*
13.	Material possession	0.274**
14.	Extension contact	0.294**

15.	Economic motivation	0.161
16.	Scientific orientation	0.105
17.	Risk orientation	0.142

*Significant at 0.05% probability level

** Significant at 0.01% probability level.

Conclusion

We are concluded that out of 10 cultivation practices i.e. agricultural practices of Mango cultivation, Field preparation (87.56%) was rank at 1st as far as knowledge possessed by the respondents and out of 10 cultivation practices i.e. Irrigation management (94.66%) was rank at 1st as far as Adoption possessed by the respondents was concerned. Out of 17 variables studied, the 6 variables i.e. Adoption extent of scientific Mango cultivation practices, education, housing pattern, land holding, material possession, extent of contact was found highly significant and positively correlated with knowledge extent.

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