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Adoption extent of scientific 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 purposely. 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. Irrigation management (94.66%) was rank at 1st as far as adoption possessed by the respondents was concerned. The practice Intercropping and weed management rank at 2nd (60.33%), followed by High yielding varieties at rank 3rd (58.83%), Field preparation at rank 4th (51.94%), Recommended spacing at rank 5th (51.33%), Harvesting and marketing at rank 6th (44.88%), Transplanting at rank 7th (41.09%), Fertilizer application at rank 8th (35.16%), Plant protection measures at rank 9th (35%) and Plant growth regulators at rank 10th (14.5%), respectively. Knowledge about scientific practices of farmers in Mango cultivation, education, Occupation, material possession and extent of contact had highly significant and positive correlation with adoption of mango cultivation practices.

Keywords: Adoption, mango grower, scientific practices, correlation coefficient etc

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 2 accepted fruit all over the world due to its taste, flavor, 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. Maximum 57.50 per cent mango orchardists have full adoption of 10 m x 10 m planting distance. Most of the orchardists have full adoption of Dashehari, Langra and Chausa varieties for plantation in mango orchard (Tanwar, 2013) [4].

In fertilizers and manure application, most of the mango growers were have full adoption. Most of orchardists have partial adoption of ring and furrow method for irrigation, while 67.50 orchardists have full adoption of flood method for irrigation, There was 100 per cent full adoption in wettablesulphur, 97.50 per cent karathan and hexaconazol for disease control. Most of the orchardists have full adoption in Monocrotophos, Endosulphan and Imidaclopid for pest management. Maximum farmers were having full adoption in grading and packing of mango, while few orchardists have partial adoption in processing practices in mango. The 100 per cent mango orchardists have full adoption in Mandisamities for marketing of fruits, while most of the orchardists have no adoption of direct sale of fruits to consumers and whole sellers in same town, village and export of fruits.

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. Adoption of the scientific practices of farmers in Mango cultivation using the adoption test developed by the investigator and used. The modifications in the existing adoption test were in relation to item regarding scientific practices in Mango cultivation technology. All the question for adoption 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 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 adoption test which indicated the adoption level of the respondents.

Results and discussion

It is obvious from the Table-1 that among all 10 agricultural practices of Mango cultivation, Irrigation management (94.66%) was rank at 1st as far as knowledge possessed by the respondents was concerned. The practice Intercropping and weed management at rank 2nd (60.33%), followed by High yielding varieties at rank 3rd (58.83%), Field preparation at rank 4th (51.94%), Recommended spacing at rank 5th (51.33%), Harvesting and marketing at rank 6th (44.88%), Transplanting at rank 7th (41.09%), Fertilizer application at rank 8th (35.16%), Plant protection measures at rank 9th (35%) and Plant growth regulators at rank 10th (14.5%), respectively. The overall adoption index was calculated to be 48.77%. It can be calculated that the extent of adoption about Scientific

Mango cultivation seems to be satisfactory.

Table 1: Adoption Extent of Mango growers about Mango cultivation practices: N=100

S. No.	Orchard management practices	Mean %	Ranks
1.	Field preparation	51.94	IV
2.	High yielding varieties	58.83	III
3.	Transplanting	41.09	VII
4.	Recommended spacing	51.33	V
5.	Fertilizer application	35.16	VIII
6.	Plant growth regulators	14.50	X
7.	Irrigation management	94.66	I
8.	Intercropping and weed management	60.33	II
9.	Plant protection measures	35.00	IX
10.	Harvesting and marketing	44.88	VI
	Overall percentage	48.77	

Table-2 focuses that out of 17 variables studied, the variables like Knowledge about scientific practices of farmers in Mango cultivation, education, Occupation, material possession and extent of contact had highly significant and positive correlation with adoption of mango cultivation practices. The variables housing pattern, annual income, scientific orientation and risk orientation were found significant and positively correlated with adoption extent. The variable size of family was found significant and negatively correlated with Adoption extent. The variable like age, type of family and caste were found negatively correlated Adoption extent. The variable like type like marital status, land holding, social participation and economic motivation were found significant and positively correlated. Those variables which showed the positive and significant relationship had direct influence over adoption extent about Mango cultivation practices. Thus, it can be concluded that if the values of the variables increase the adoption extent of cultivation practices of Mango will also be increase.

Table 2: Correlation coefficient (r) between different variables and Adoption extent of scientific Mango cultivation practices

S. No.	Variables	Correlation Coefficient
1.	Knowledge about scientific practices of farmers in Mango cultivation	0.633**
2.	Age	-0.122
3.	Education	0.421**
4.	Marital status	0.086
5.	Caste	-0.081
6.	Type of family	-0.146
7.	Size of family	-0.200*
8.	Housing pattern	0.243*
9.	Land holding	0.102
10.	Occupation	0.309**
11.	Annual income	0.232*
12.	social participation	0.176
13.	Material possession	0.275**
14.	Extension contact	0.294**
15.	Economic motivation	0.107
16.	Scientific orientation	0.231*
17.	Risk orientation	0.216*

*Significant at 0.05% probability level

** Significant at 0.01% probability level

Conclusion

We are concluded that out of 10 cultivation practices i.e. Irrigation management (94.66%) was rank at 1st as far as knowledge possessed by the respondents were concerned. The practice Intercropping and weed management rank at 2nd (60.33%), followed by High yielding varieties at rank 3rd

(58.83%), respectively. The 5 variables i.e. Knowledge about scientific practices of farmers in Mango cultivation, education, Occupation, material possession and extent of contact had highly significant and positive correlation with adoption of mango cultivation practices. Thus, it can be concluded that if the values of the variables increase the

adoption extent of cultivation practices of Mango was also increase.

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