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Knowledge level of guava orchardists regarding guava cultivation practices of Muzaffarnagar district

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Abstract
The present study was carried out during the year 2018-19, in Muzaffarnagar district of Western Uttar Pradesh to know the knowledge level of guava orchardists regarding guava cultivation practices. The study was conducted on 80 respondents of various categories and data was collected from the respondents through personal interview method. The study revealed that most of the guava orchardists were having high knowledge about how to judge ripen fruits (81.25 per cent), packing of guava for disposal at long distance market (56.25 per cent), pit size for guava planting (56.25 per cent), planting distance (51.25 per cent), picking of guava fruit (51.25 per cent), filling material in the pit (50.00 per cent). While medium knowledge had about the irrigation management (68.75 per cent), manures and fertilizers application (56.25 per cent), marketing (56.25 per cent), training & pruning of guava plants (55 per cent), major insects/ pests and their control control measurements (51.25 per cent), while, most of the farmers (guava orchardists) moderate adopting of the guava cultivation practices. where are low knowledge was found in application of plant growth regulators (50 per cent), storage of fruit just after harvesting (35 per cent), grading of guava fruits (28.75 per cent), suitable inter crops in guava orchards (22.50 per cent) and major diseases and their control control measurements (18.75 per cent).

Keywords: Knowledge level, Guava orchardists

Introduction
Guava (*Psidium guajava* L.) belongs to family Myrtacea is one of the cherished fruits of India and is aptly called as the apple of Tropics and poor man's apple. It is native of Mexico, Central America and Northern South America. For its high adaptability to varied soil and climatic conditions along with hardy nature, it has acclimatized in Indian condition within a short period of time. This fruit has gained considerable prominence in our country in general and the state of Uttar Pradesh in particular on account of its high nutritive value, pleasant aroma and availability at moderate price.

Guava besides being a whole some fruit is a store house of pectin, minerals (Ca, P and Fe) carbohydrate, fiber, riboflavin, thiamine and vitamin-C. the fruit is used to prepare jelly, jam, nectar, juice, pie, cake, stewed and preserved. Fresh fruit of guava contains 100 to 260 mg Vitamin-C of per 100 g of its pulp and it is not lost during observation. Uttar Pradesh is the largest producer of guava *viz*; 914.94 thousand metric tonnes from an area of 49.01 thousand hectares followed by Madhya Pradesh 523.75 thousand metric tonnes in 30.31 thousand hectares. (National Horticulture Board 2017-18) The meadow orchard system is more beneficial than any other system. In this system, the production starts in the firsts year itself giving an average yield of 13 tonnes/ ha which doubles during the next year. In the 3rd/ and 5th year yield is approximately 40 and 60 tonnes/ ha, respectively. This clearly shows that the meadow orchard system is better than other planting systems.

Research Methodology
The present study was conducted in Western Uttar Pradesh out of which Muzaffarnagar district was purposively selected on the basis of nearest of the researcher, easy language, and easy availability of the guava cultivators in addition to good transportation facility a pre-requisite for better marketing in National Capital Region for higher returned. Out of the total 9 blocks of Muzaffarnagar district, two blocks Baghara and Charthawal were selected for the study and total 8 villages (Four village in each block) were selected purposively with a view to providing the adequate size of the sample of the respondents, on the basis of maximum guava area and availability of maximum guava orchardists. 10 respondents from the each village

were selected randomly. Thus the total sample size of 80 respondents were selected for the present study. The data was collected through personal interview with the help of pre-tested interview schedule. The data was analysed, tabulated and find out the frequency, percentage.

Objectives were selected for the studies are

To assess the knowledge level of guava orchardists regarding guava cultivation practices.

Result and Discussion

Appropriate knowledge of the recommended new and improved guava production technology is a prerequisite for adopting any new innovation. There are several factors that need to be taken care of during the promotion of adoption of major common farming practices among orchardists. Therefore, essential data was generally collected from the respondents and data were analyzed in response to assess the current knowledge level of the guava orchardists about recommended package of practices regarding guava cultivation.

Table 1: To assess the knowledge level of guava orchardists regarding guava cultivation practices

S. No.	Statements	High		Medium		Low	
		F	P	F	P	F	P
1.	Improved varieties	38	47.50	37	46.25	5	6.25
2.	Pit size for guava planting	45	56.25	30	37.75	5	6.25
3.	Filling material in the pit	40	50.00	35	43.75	12	15.00
4.	Planting methods	39	48.75	30	37.50	8	10.00
5.	Planting distance	41	51.25	35	43.75	4	5.00
6.	Irrigation management	16	20	55	68.75	9	11.25
7.	Manures and fertilizers application	32	40.00	45	56.25	3	3.75
8.	Suitable Inter crops in guava orchards	30	37.50	32	40.00	18	22.50
9.	Application of plant growth regulator	4	5.00	36	45.00	40	50.00
10.	Major insects/ pests and their control measurements	30	37.50	41	51.25	9	11.25
11.	Major diseases and their control measurements	27	33.75	38	47.50	15	18.75
12.	Training & pruning of guava plants	31	38.75	44	55.00	5	6.25
13.	How to judge ripen fruits	65	81.25	10	12.50	5	6.25
14.	Picking of guava fruit	41	51.25	31	38.75	8	10.00
15.	Storage of fruit just after harvesting	13	16.25	39	48.75	28	35.00
16.	Grading of guava fruits	19	23.75	38	47.50	23	28.75
17.	Packing of guava for disposal at short distance market	37	46.25	38	47.50	5	6.25
18.	Packing of guava for disposal at long distance market	45	56.25	32	40.00	3	3.75
19.	Marketing	28	35.00	45	56.25	7	8.75

F-frequency, P-percentage

The data from the Table 1 revealed that the most of the respondents were having high level of knowledge about the improved varieties of guava. Among the total sample size 47.50 per cent respondents were reported under high level of knowledge about the improved varieties of guava followed by 46.25 per cent of the respondents were reported under medium level of knowledge about the improved varieties of guava. Only 6.25 per cent respondents were having under low level of knowledge about the improved varieties of guava. The total sample size 56.25 per cent respondents were reported under high level of knowledge about the Pit size for guava planting followed by 37.50 per cent of the respondents were reported under medium level of knowledge about the Pit size for guava planting and remaining 6.25 per cent respondents were having under low level of knowledge about the Pit size for guava planting.

The total sample size 50.00 per cent respondents were reported under high level of knowledge about the filling material in pit followed by 43.75 per cent of the respondents were reported under medium level of knowledge about the filling material in pit and remaining 15.00 per cent respondents were having under low level of knowledge about the filling material in pit. The total sample size 48.75 per cent respondents were reported under high level of knowledge about the Planting methods of guava orchard followed by 37.50 per cent of the respondents were reported under medium level of knowledge about the Planting methods of guava orchard and remaining 10.00 per cent respondents were having under low level of knowledge about the Planting methods practices of guava orchard.

The total sample size 51.25 per cent orchardists were reported under high level of knowledge about the Planting distance of guava plant and 43.75 per cent orchardists were reported under medium level of knowledge about planting distance of guava plant. Only 5.00 per cent orchardists were reported under low level of knowledge about the Planting distance of guava plant. the total sample size 68.75 per cent orchardists were reported under medium level of knowledge and 20.00 per cent orchardists were reported under high level of knowledge about the irrigation management of guava orchard. Only 11.25 per cent orchardists were reported under low level of knowledge about the irrigation management of guava orchard. In the study area good irrigation facilities were available. Most of the guava orchardists were having their own private electric tube well. The total sample size 56.25 per cent orchardists were reported under medium level of knowledge and 40.00 per cent orchardists were reported under high level of knowledge about the manures and fertilizers application in guava orchard. Only 3.75 per cent orchardists were reported under low level of knowledge about the manures and fertilizer application in guava orchard.

The total sample size 40.00 per cent orchardists were reported under medium level of knowledge, 37.50 per cent orchardists were reported under high level of knowledge about the suitable inter crops in guava orchards and remaining 22.50 per cent orchardists were reported under low level of knowledge

about the suitable inter crops in guava orchards**.** Among the total sample size 50.00 per cent orchardists were reported under low level of knowledge and 45.00 per cent orchardists were reported under medium level of knowledge about the application of plant growth regulators in guava orchard Only 5.00 per cent orchardists were reported under high level of knowledge about the application of plant growth regulators in guava orchard. Among the total sample size 51.25 per cent orchardists were reported under medium level of knowledge, 37.50 per cent orchardists were reported under high level of knowledge about the major insect/ pests control measurements of guava orchards and remaining 11.25 per cent orchardists were reported under low level of knowledge about the control measurements of major insects' pests in guava orchards. The mostly respondent were not having any scientific knowledge regarding name of pesticides, their doses and method of application of pesticides for plant protection measurement in guava orchard. Among the total sample size 47.50 per cent orchardists were reported under medium level of knowledge, 33.75 per cent orchardists were reported under high level of knowledge about the control measurements of major diseases in guava orchards and remaining 18.75 per cent orchardists were reported under low level of knowledge about the control measurements of major diseases in guava orchards. The mostly respondent were not having any scientific knowledge regarding name of fungicides, their doses and methods of application of fungicides for plant protection measurement in guava orchard. The total sample size 55.00 per cent orchardists were reported under medium level of knowledge and 38.75 per cent orchardists were reported under high level of knowledge about the training pruning of guava plants. Only 6.25 per cent orchardists were reported under low level of knowledge about the training pruning of guava plants.

The total sample size 81.25 per cent orchardists were reported under high level of knowledge, 12.50 per cent orchardists were reported under medium level of knowledge about how to judge ripen fruits. Only 6.25 per cent orchardists were reported under low level of knowledge about how to judge ripen fruits. Fruit maturity is mainly indicated by colour change from dark green to yellowish green. Since loss due to birds attack is serious, it is not advisable to allow fruits to ripen on trees. Individual fruit picking is done when they are still hard and firm. Mature or half-ripe fruits are more preferred for fresh consumption than fully ripe one's guava fruits. Among the total sample size 51.25 per cent orchardists were reported under high level of knowledge and 38.75 per cent orchardists were reported under medium level of knowledge about the picking of guava fruits. Only 10.00 per cent orchardists were reported under low level of knowledge about the appropriate picking of guava fruits.

The total sample size 48.75 per cent orchardists were reported under medium level of knowledge, 35.00 per cent orchardists were reported under low level of knowledge about the storage of guava fruits just after harvesting and remaining 16.25 per cent orchardists were reported under high level of knowledge about the storage of guava fruits just after harvesting. The Fruits could be stored for a few days, to adjust to the market demand conditions. Chundawat and others (1976) had reported that all the cultivars except the Allahabad Safeda could be stored for 2 days at the room temperature. The Safeda could be stored for 4 weeks in cold storage at (8.5-14 C) had stored the Guava successfully upto 6 days in perforated polythene bags and wooden boxes without rotting and without much weight loss. At room temperatures, the fruits treated with aureofungin and ethylene chlorohydrin plus calcium carbonate could be stored for a period of 5 days without spoilage and up to 7 days with 25 per cent spoilage only. the total sample size 47.50 per cent orchardists were reported under medium level of knowledge, 28.75 per cent orchardists were reported under low level of knowledge about the grading of guava fruits. Only 23.75 percent orchardists were reported under high level of knowledge about the grading of guava fruits for national capital market. The total sample size 47.50 percent orchardists were reported under medium level of knowledge, 46.25 percent orchardists were reported under high level of knowledge about the packing of guava fruits for disposal at short distance markets. Only 6.25 per cent orchardists were reported under low level of knowledge about the packing of guava fruits for disposal at short distance market**.**

While, the data from the Table 1 observed that the most of the orchardists were high level of knowledge about the packing of guava fruits for disposal at long distance market. Among the total sample size 56.25 per cent orchardists were reported under high level of knowledge, 40.00 per cent orchardists were reported under medium level of knowledge about the packing of guava fruits for disposal at long distance markets like Delhi NCR and other states and remaining 3.75 percent orchardists were reported under low level of knowledge about the packing of guava fruits for disposal at long distance market. Among the total sample size 56.25 per cent orchardists were reported under medium level of knowledge, 35.00 per cent orchardists were reported under high level of knowledge about the marketing system of guava fruits and remaining 8.75 per cent orchardists were reported under low level of knowledge about the marketing system of guava fruits.

Conclusion

It may be concluded that most of the guava orchardists were having low knowledge level about the application of plant growth regulators, storage of fruit just after harvesting, grading of guava fruits, suitable Inter crops in guava orchards, major diseases and their control control measurements, filling material in the pit, suitable inter crops in guava orchards, planting distance, picking of guava fruit, marketing, improved varieties, pit size of guava planting, training and pruining of guava plants, how to judge ripen fruits, packing of guava for disposal at short distance market, planting distance, manures and fertilizers application, packing of guava for disposal at long distance market.

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