

Constraints Faced by Farmers in Adoption of Guava Production Technology in Tikamgarh District of Madhya Pradesh

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ABSTRACT

The study was undertaken in Tikamgarh district of Madhya Pradesh to investigate the constraints faced by guava growers during production and marketing of guava and document the suggestions offered in adoption of guava production technology. The constraints which were most perceived by guava growers were unavailability of quality planting material, lack of proper post harvest management facilities and lack of knowledge about varieties suitable to their areas. Farmers offered suggestions for ensuring quality planting material.

Key words: Constraints, suggestions, guava, adoption, post harvest

INTRODUCTION

Guava (*Psidium guava L.*) occupies a premier position among the tropical fruit trees. It is rich in vitamin C (75-260 mg / 100 g pulp), pectin (0.5-1.8 %), good source of thiamine (0.03-0.07 mg/ 100 g pulps) and riboflavin (0.02-0.04 mg / 100 g pulp). Besides, guava fruit is also a good source of minerals, like phosphorus (22.5-40.0 mg / 100 g), calcium (10.0-30.0 mg / 100 g) and iron (0.60-1.39 mg / 100 g). At present, it is scattered throughout India and cultivated in an area of about 1,02,000 hectares with production of 12,00,000 tonnes (Mishra and Pandey, 2002). In India, it ranks fourth in area and production after mango, banana and citrus. Among the states, Uttar Pradesh tops the list with regard to acreage and production. In Madhya Pradesh, it ranks 10th among the different fruit cultivated with an area of 3500 hectares and production of 69000 tonnes. Guava as also one of the most important and popular fruit tree in Tikamgarh district with an average acreage, production and productivity of guava as 210 hectares, 9400 tonnes and 45 tonnes/ ha, respectively. In general, guava is cultivated largely through a traditional system, under which it is difficult to achieve desired level of production because large trees provide low production per unit area and need high labour inputs. Large trees take several years before they come into full bearing and increased over all cost of production per unit area. Documentation has been done by different workers on

various aspects like genetic variability, varieties wealth, nutritional value, agro-techniques including top working and water management and post-harvest changes etc. On the other hand, limited information is available about area specific varieties suitability and performance of guava at farmer's orchards in Tikamgarh district of Madhya Pradesh. Keeping this in view, the present investigation was carried out to study the constraints faced by guava growers during production and marketing of guava and suggestion offered in adoption of guava production technology.

METHODOLOGY

The present study was undertaken in Tikamgarh district of Madhya Pradesh. This investigation was related to guava cultivators and constraints faced by them during production and marketing. This district consists of six blocks from which block Tikamgarh, Niwari and Palera were selected purposively. From each block four villages and from each village thirty farmers were selected, where the farmers were having largest area under guava cultivation. The farmers from each village were arranged alphabetically and random sample of 120 farmers were drawn by randomization. A structured interview schedule was prepared for collection of data with a view to study various aspects. During investigation, the respondents expressed many reasons due to which they could not use recommended practices in their farming. The reasons or the causes were termed as constraint in the study. The

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respondents were asked to indicate the constraints faced in adoption of recommended practices with its intensity of feeling on “yes or no answer.” Obtained problems were expressed in terms of frequency and percentage. Rank order was given from the highest percentage to the lowest percentage.

RESULTS AND DISCUSSION

Knowledge and adoption level of guava cultivators

Knowledge and adoption level of the respondents were measured and data have been presented in Table 1. It was observed from the data that more than half of the respondents (51.66%) were having medium knowledge level about guava production technology and 25 per cent, 23.33 per cent respondents were possessing low and high knowledge level, respectively. Further, it is evident from the table that 50 per cent of the respondents were medium adopters. It may be resulted from the above findings that majority of the respondents were possessing medium knowledge level about guava production technology and were medium adopters of the technology. This clearly indicates the need to put more efforts by all the concerned to convince the farmers about improved production technology of guava cultivation. The results are in conformity with finding of Thakre *et al.* (1996), Meena V (2004), Meena and Sisodia (2005) and Ghadge (2014).

Table 1: Distribution of guava farmers according to their level of knowledge and adoption.
n = 120

| Categories | Knowledge | Adoption |
|------------|------------|------------|
| High | 30 (25.00) | 27 (22.50) |
| Medium | 62 (51.66) | 60 (50.00) |
| Low | 28 (23.33) | 33 (27.50) |
| Mean | 33.33 | 33.33 |

Constraints faced by the respondents

The parts of constraints were kept open ended in the questionnaire. The responses were recorded in the schedule itself. The constraints under each of the practice required were rated by each and every respondent, in one of the three categories *viz.*, most important, important and less important. The frequency was calculated for each constraint and converted in to percentage and rank was given. The higher ranks indicated higher perception of the respondents for that constraint and vice versa. The constraints and the mean score are given in the following table 2.

Observations and analysis

The highest percentage observed in constraints were unavailability of quality planting material (rank first), lack of proper post harvest management facilities (rank

second), lack of knowledge about varieties suitable to their areas (rank third), lack of training at village level (rank fourth), lack of knowledge about recommended guava production technology (rank fifth), Inadequate guidance by extension personnel (rank sixth), lack of knowledge about plant protection measures (rank seventh), high wages of labour (rank eighth), costly transportation (rank ninth), lack of marketing infrastructure facilities (rank tenth), fluctuation of guava price in the market (rank eleventh) and weight and quality loss during storage and transportation (rank twelfth).

Table 2: Constraints faced by the farmers in adoption of recommended guava production technology
n = 120

| Constraints | Frequency | Percentage | Ranks |
|---|-----------|------------|-------|
| Unavailability of quality planting material | 114 | 95.00 | I |
| Lack of knowledge about varieties suitable to their areas | 100 | 83.33 | III |
| Lack of marketing infrastructure facilities | 61 | 50.83 | X |
| Lack of knowledge about recommended guava production technology | 90 | 75.00 | V |
| Lack of knowledge about plant protection measures | 72 | 60.00 | VII |
| Weight and quality loss during storage and transportation | 32 | 26.66 | XII |
| Lack of proper post harvest management facilities | 112 | 93.33 | II |
| High wages of labour | 70 | 58.33 | VIII |
| Inadequate guidance by extension personnel | 80 | 66.66 | VI |
| Lack of training at village level | 95 | 79.16 | IV |
| Fluctuation of guava price in the market | 50 | 41.66 | XI |
| Costly transportation | 65 | 54.16 | IX |

Suggestions from the farmers to overcome the constraints in adoption of guava production technology

The suggestions were invited openly from respondents and the frequency was calculated for each suggestion and converted into percentage and rank was given (table 3). The most important suggestions offered by the guava growers to overcome the constraints in adoption of improved guava production technology were: availability quality planting material (79.16 %) sufficient and timely credit facility should be made available to guava growers (66.66 %) remunerative price should be given to guava growers (58.33 %) training should be imparted to the guava growers (54.16 %) availability of post harvest infrastructure (51.66 %) market facilities should be strengthened (50.0 %) and irrigation sources should be increased (45.83 %). It is clear from the table 3 about the suggestions made by the majority of the farmers that these suggestions were based on the facilities availed

but were not sufficient and satisfied up to the extent of their expectations. Thus, it can be concluded from the facts mentioned above that the facilities to the guava growers' were already being provided by the human resources or by natural resources needs to be strengthened and tailored according to the requirements of guava growers. The other suggestions offered by the farmers need to be looked in to account very carefully by the appropriate agencies to improve the productivity of guava crop.

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Mishra, K.K. and Pandey, R. 2002. *Amrod*, (in) Fruit Production, Directorate of publication, GBPUAT, Pantnagar (Uttanchal). pp 50-66.

Thakre P.V.Chikale N.S., Deshmukh P.V. 1996. Factors affecting adoption of orange technology by growers *Maharashtra Journal of Extension Education* 14(243):20-23.

Table 3: Suggestions from the respondents to overcome the constraints.
n = 120

| Constraints | Frequency | Percentage | Ranks |
|--|-----------|------------|-------|
| Quality planting material should be made available easily | 95 | 79.16 | I |
| Training should be imparted to the guava growers | 65 | 54.16 | IV |
| Market facilities should be strengthened | 60 | 50.00 | VI |
| Irrigation sources should be increased | 55 | 45.83 | VII |
| Remunerative price should be given to guava growers | 70 | 58.33 | III |
| Sufficient and timely credit facility should be made available | 80 | 66.66 | II |
| Availability of post harvest infrastructure | 62 | 51.66 | V |

CONCLUSION

Majority of farmer's constraint about guava production technology were found to be the unavailability of quality planting material, lack of proper post harvest management facilities, lack of knowledge about varieties suitable to their areas, lack of training at village level, lack of knowledge about recommended guava production technology and inadequate guidance by extension personnel. Providing quality planting material to farmers was suggestion as given by farmers.

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REFERENCES

Ghadge RM 2014. Constraints in Adoption of Improved Production Technology of Mandarin. *Indian Journal of Extension Education* Vol. 50, No. 1 & 2, 2014 (90-92).

Meena V. 2004. Knowledge and adoption of improved technology of guava plantation in sawi madhopur district of *Rajasthan. M.sc. (Ag) Thesis* RAU Bikaner.

Meena, S.R. and Sisodia, S.S. 2005. Constraints as perceived by the respondents in adoption of recommended guava production technology. *Rajasthan*