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Evaluation of Agronomic Practices based on the Knowledge Level of Small and Big Guava growers of Rajasthan State

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ABSTRACT

The present research work was carried out to assess the practices followed by guava growers of Sawai Madhopur District of Rajasthan. For the study, a sample size of small (n=54) and big guava growers (n=66) from six different villages were selected using simple random sampling technique. Assessment of knowledge regarding different agronomic practices comprised of usage of improved varieties, vegetative propagation method, planting practices, type of irrigation system used, usage of manure and fertilizers and plant protection measures etc. was made. The knowledge gap was categorized into three different classes as highest, medium and low based on mean percent score (MPS). The results showed that highest level of knowledge gap found in case of vegetative propagation (41.75 %), irrigation system (35.83 %) and plant protection measures (34.62 %). Further recorded that the medium level of knowledge gap in package of practices like improved varieties (30.83 %), harvesting and marketing(30.65 %) and cultural practices (22.35 %) while lowest level of knowledge gaps was found in practices like planting practices (4.05 %) and manure a fertilizers (13.02 %) among the total majority of guava growers regarding improved guava cultivation practices. The results further elucidated that there was a significant difference found between small and big guava growers with respect to agronomic practice followed to improve guava production technology. Thus, it can be concluded that the big guava growers had more knowledge about major practices of guava cultivation than small guava growers.

Key Words: Agronomic practices, Gap, Guava Growers, Knowledge.

INTRODUCTION

Guava Fruit is successfully grown all over India. Major guava growing states are Bihar, Uttar Pradesh, Maharashtra, Madhya Pradesh, Gujarat, Andra-Pradesh, Tamil Nadu, Karnataka, Assam, Punjab, Kerala, West Bengal, Orissa and Tripura. Guava is the fifth most important sub tropical fruit crop of India after mango, banana, citrus and apple. Rajasthan State is considered to be the potential area for fruits like mango, orange, lemon, guava, kinnow, mosambi, banana, grapes, papaya, ber, aonla, malta, phalsa, pomegranate, date-palm, etc. The Bharatpur region has reputation of growing the best quality of guava in the state. Bharatpur division (Alwar, Dholphur, Bharatpur, Sawai-Madhopur and Karauli) is well known for its area and production. Generally there is a technological gap between the technology generated and its adoption. A number of agencies like Department of Horticulture (Govt. of Rajasthan), Krishi Vigyan Kendra (ICAR, New Delhi) and Regional Research Station are working on fruits are located at Sawai Madhopur District. Keeping this in mind, an effort was made to assess the technological gap among the guava growers of Sawai-Madhopur District of Rajasthan.

MATERIALS AND METHODS

Locate of Study

The present study was conducted in purposively selected Sawai-Madhopur district of Rajasthan. A list of all the guava growing villages was prepared in consultation with tehsil personnel's and with the

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help of Department of Horticulture. From the list, six villages were selected on the basis of maximum area under the guava cultivation and comprehensive list of all guava growers of the selected villages.

Selection of Sample size

The numbers of guava growers were decided for each village by proportionate sampling method. The farmers of each village were selected by simple random techniques. In this way a sample of fifty-four small and sixty six big guava growers were selected. Thus, the total study sample consisted of 120 respondents from all the six selected villages of Sawai-Madhopur panchayat samiti.

Assessment of Parameters

Assessment of knowledge regarding different agronomic practices comprised of usage of improved varieties, vegetative propagation method, planting practices, type of irrigation system used, usage of manure & fertilizers and plant protection measures etc. The knowledge gap was categorized into three different classes as highest, medium and low based on mean percent score (MPS).

RESULTS AND DISCUSSION

Distribution of respondents according to their level of knowledge

The knowledge of respondents about improved practices of guava cultivation is presented in Table 1. Respondents were divided into three knowledge groups based on knowledge score obtained by them. The data related to knowledge of two categories of respondents (small and big guava growers) indicate that the farmer's knowledge of improved practices of guava cultivation has a wide gap.

The knowledge score obtained by the respondents was divided into three categories. and results showed that majority of guava growers (61.6%) had medium level of knowledge regarding improved practices of guava cultivation. This was also observed that almost equal number of respondents possessed low level of knowledge category (20%) and 18.3% were having high level of knowledge of improved guava production technology.

In case of small guava growers, 55.6 per cent respondents possessed medium level of knowledge about improved practices of guava cultivation. This was followed by 44.4 per cent respondents who possessed low level of knowledge. It was interesting to note that none of the respondents in the sample was reported with high level of knowledge about improved guava cultivation practices. Among the big guava growers, 66.7 per cent of respondents had medium level of knowledge about improved practices of guava cultivation. This was interesting to note that none of the respondents in the sample was reported to be with low level of knowledge and only 33.33 per cent of the respondents had high level of knowledge about improved practices of guava cultivation. These findings were similar with the findings of Poonia (2002) who found that majority of respondents (65%) had medium level of knowledge of improved kinnow cultivation practices. However, respondents found in high and low knowledge category were 18.3 and 16.6 per cent, respectively.

Table 1. Distribution of respondents according to their level of knowledge about improved guava cultivation practices.

Sr. No.	Knowledge Level	Small guava growers (n = 54)	Big guava growers (n =66)	Total (n = 120)
1.	Low (< 59)	24 (44.4)	-	24 (20)
2.	Medium (59 to 70)	30 (55.6)	44 (66.7)	74 (61.7)
3.	High (>70)	-	22 (33.3)	22 (18.3)

Knowledge level and knowledge gaps among the small and big guava growers

It was evident that that the level of knowledge about improved guava cultivation practices needs to be introduced to the small and big guava growers. The data (Table 2) showed that the overall level of knowledge with 73.36 MPS were found among the total majority of guava growers with regard to improved guava cultivation practices. The highest level of knowledge in package of practices likes planting practices (95.95 MPS), manure and fertilizers (86.98 MPS) ware ranked first and second. Further reported that the medium level of knowledge followed towards cultural practices (77.65 MPS) followed by harvesting and marketing (69.35 MPS), improved varieties (69.17 MPS) and plant protection measures (65.37 MPS) were ranked third, fourth, fifth and sixth in ranks order. Further, recorded that the lowest level of knowledge in package of practices like irrigation system (64.17 MPS) and vegetative propagation (58.25 MPS) were ranked Seven and Eight in ranks order among the total majority of guava growers regarding improved guava cultivation practices. The overall level of knowledge gaps (26.64 %) were found among the total majority of guava growers with regard to improved guava cultivation practices. Further reported that the highest level of knowledge gaps found in case of vegetative propagation (41.75 %), irrigation system (35.83 %) and plant protection measures (34.62 %). Further recorded that the medium level of knowledge gaps in package of practices likes "Improved varieties" (30.83 %), harvesting and marketing (30.65 %) and cultural practices (22.35 %). Further observed that the lowest level of knowledge gaps in package of practices like planting practices (4.05 %) and Manure and fertilizers (13.02 %) among the total majority of guava growers regarding improved guava cultivation practices in the study area.

The data (Table 2) further revealed that the overall level of knowledge with 67.28 MPS were found among the small guava growers with regard to improved guava cultivation practices. The highest level of knowledge in package of practices like planting practices with 91.53 MPS; and manure & fertilizers with 81.02 MPS ware ranked first and second in ranking orders. Further observed that the medium level of knowledge followed towards

Table 2. Knowledge level and knowledge gaps among small and big guava growers regarding improved guava cultivation practices

Sr. No	Practice	Small guava growers (n = 54)	Big guava growers (n =66)	Total guava growers (n = 120)
		MPS	MPS	MPS
1.	Improved varieties	53.24	82.20	69.17
2.	Vegetative Propagation	54.63	61.21	58.25
3.	Planting practices	91.53	99.57	95.95
4.	Irrigation system	63.27	64.90	64.17
5.	Manure and fertilizers	81.02	91.86	86.98
6.	Cultural practices	73.42	81.10	77.65
7.	Plant protection measures	60.65	69.24	65.375
8.	Harvesting and marketing	60.45	76.62	69.35
	Over all	67.28	78.34	73.36

MPS= Mean per cent score

cultural practices with 73.42 MPS, irrigation system with 63.27 MPS, plant protection measures with 60.65 MPS and harvesting & marketing with 60.45 MPS were ranked third, fourth, fifth and sixth in ranks order. The data further indicated that big guava growers had less knowledge gap (especially in planting practices very less and in manure of fertilizers just half) as compared to small guava growers. It may be due to large size of land holding, more cosmopolite orientation and high socio-economic status of big growers than small growers. The overall knowledge gaps (26.64%) among the guava growers indicate that they have less knowledge of improved guava cultivation practices. There was a higher knowledge gap was found in case of vegetative propagation among the guava growers may be due to lack of knowledge about reliable sources of plant material and unavailability of reliable plant propagation material. High knowledge gap was reported in case of irrigation system and plant protection measures among the guava growers may be due to lack of skill in using modern irrigation system and high mortality of plants in the field during initial years. Thus, the guava growers were not aware with innovative vegetative propagation techniques and irrigation systems. These findings were similar in line with the findings of Reddy and Ratnakar (1993) who reported that most of the orchard keepers were having less knowledge regarding improved mango production technology. Another study also reported that found that there was significant difference in knowledge among marginal, small and big categories of farmers (Sharma S, 1991 and Poonia, 2002).

Significance of difference between small and big guava growers

The difference of knowledge was analyzed with the help of 'Z' test. The obtained results have been presented in table 3.

The data presented in table 3 showed that there existed a significant difference in knowledge of small and big guava growers with respect to major improved practices of guava cultivation except irrigation system. A non significant difference in the knowledge of small and big guava growers with respect to only one major practice of guava cultivation was observed *i.e.,* irrigation system. The calculated 'Z' values were found to be significant for seven individual practices and non significant for one individual practices.

Table 3. Significance of difference between small and big guava growers with respect to practice wise knowledge about improved guava cultivation practices.

Sr. No.	Practice	Max. obtainable score	Mean obtained score		Mean difference	'Z' value
			Small growers (n=54)	Big growers (n=66)		
1.	Improved varieties	8	4.26	6.58	2.32	14.09*
2.	Vegetative propagation	10	5.46	6.12	0.66	5.79*
3.	Planting practices	7	6.41	6.97	0.56	7.56*
4.	Irrigation system	6	3.80	3.89	0.10	1.51NS
5.	Manure and fertilizers	8	6.48	7.35	0.87	6.11*
6.	Cultural practices	17	12.48	13.79	1.31	7.37*
7.	Plant protection measures	20	12.13	13.85	1.72	8.80*
8.	Harvesting and marketing	14	8.46	10.73	2.27	19.40*

* Significant at 5% level

CONCLUSION

It can be concluded that the big guava growers had more knowledge about major practices of guava cultivation than small guava growers. It may be due to the fact that the big guava growers are more innovative in their outlook; as they are more change prone and seek latest information from as they have cosmopolite orientation. They have contacts with experts working at research stations. All this might have resulted in higher knowledge about improved guava cultivation practices.

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