Knowledge and Attitude of the Pomegranate Growers about Recommended Cultivation Technology in Pune district of Maharashtra

Abstract:

Pomegranate is a significant fruit crop in dry and semi-arid locations around the world. It is the most commercially used crop due to its wide adaptability, hardiness, low maintenance cost, consistent and high yields, great table purpose, and superior keeping quality. As a result, a thorough assessment of producers' knowledge and attitudes towards enhanced cultivation practices would aid in developing appropriate extension and research programmes to increase their knowledge level. Keeping this in mind, a study was done in 2023-2024 to determine farmers' knowledge and attitudes towards recommended farming technology for pomegranate growers in the Pune area of Maharashtra. This study was conducted in the Haveli and Purandhar talukas of Pune district. Ten respondents from each village were selected, which constituted a total number of 120 respondents. Respondents were interviewed individually using a well-structured interview schedule. The data was coded, tabulated, and analyzed with appropriate statistical methods. Pomegranate growers have medium to high levels of knowledge about approved pomegranate farming technology. The majority of pomegranate producers had a moderate attitude, followed by a high attitude towards recommended pomegranate growing technology. Education, occupation, land holding size, annual income, mass media exposure, risk-bearing capacity, progressiveness, and scientific orientation all influence pomegranate growers' knowledge and attitude level, whereas age, marital status, and type of house have no effect on knowledge and age is negatively influence the attitude of farmers. The Extension Department should implement integrated extension activities to enhance knowledge and attitude. Future prospects include exploring export markets, capacity-building initiatives, and sustainable pomegranate-based farming systems

Keywords: Attitude, Farming technology, Knowledge, Pomegranate growers

Comment [1]: Delete 'The'

Comment [2]: Indicate the coefficinets for respective varaible.

Comment [3]:

Comment [4]: Word count is more than 250.

Introduction

Pomegranate (Punica granatum) is the most important fruit crop farmed in tropical, subtropical, and temperate zones. It is a non-climacteric fruit and one of the drought-resistant horticulture crops that has proven to be the most profitable in dry land circumstances. Pomegranate is native of Iran, where it was first cultivated in about 2000 BC, but spread to the Mediterranean countries at an early date. It is extensively cultivated in Spain, Morocco and other countries around the Mediterranean, Egypt, Iran, Afghanistan, Arabia and Baluchistan. India ranks first in pomegranate cultivation (Ghadge and Fattepurkar, 2018). In India, 1.24 lakh ha of pomegranate crop is grown, primarily in Maharashtra and Gujarat, followed by Rajasthan, Uttar Pradesh, Haryana, Andhra Pradesh, and Karnataka. With 64.61 percent of the overall production and 65.51 percent of the area under pomegranates, Maharashtra is the top state. This crop covers roughly 98,901 hectares in the state, with a pomegranate crop production of 5,55,500 MT (Rede *et al*., 2018). Pomegranate production in Maharashtra is primarily concentrated in the districts of Solapur, Nasik, Ahmednagar, Pune, Sangli Latur, Jalna, Aurangabad, Beed, and Osmanabad (Aher and Rahane, 2016). Pomegranate is one of the most popular table fruits. Fresh fruits are used for table purposes as well as in the creation of processed products such as juice, syrup, squash, jelly, anar rub, juice concentrates, carbonated cold drinks, anar dana tablets, acids, and so on. It has enormous medicinal, nutritional value and one of the richest sources of antioxidants (Morwal *et al*., 2018). The fruit is mainly used for dessert purpose and also processed for making juices, syrup, jelly and anardana. Owing to these medicinal and health benefits of the pomegranate, it is known as “Super food” and the consumption of its fruit, juice and other value-added products increased significantly (Jakkawad *et al*., 2017).

Pomegranates are significantly superior to other crops due to their resistance to drought, broad tolerance to a variety of soil and climate conditions, ease of care, and capacity for three seasons of blooming. India's current policies of globalisation and emancipation have allowed the country's farming population to access international markets (Dound *et al.,* 2018). Therefore, it is expected of our farmers to provide high-quality commodities in order to survive such competition. To produce these items at a higher price on the market, research is being done on qualitative production technology for pomegranate crops(Baswante *et al*., 2016).

Pomegranate production technology needs to play a bigger part in increasing fruit yield. By gaining more knowledge and encouraging growers to use pomegranate production technology, it is anticipated that this study will benefit government agencies as well as

pomegranate growers in the development and execution of various programmes linked to pomegranate cultivation technologies.

Research Methodology

The present study was carried out in the year 2023-24 in Pune district of Maharashtra. Out of 14 taluka, Haveli and Purandhar talukas of Pune district were selected through purposive sampling methods on the basis of maximum area under pomegranate cultivation. Six villages were selected from each block purposively, and 10 respondents from each village were selected randomly, which constituted a total number of 120 respondents. A pre-structured interview schedule was administered to all the respondents to gather general and specific information, highlighting the knowledge and attitude level of recommended cultivation technology of the pomegranate crop. The data was further analyzed and tabulated by calculating frequency, percentage and correlation.

Results and Discussion

Table 1. Distribution of respondents according to their overall knowledge level

Sr. No.	Category	Frequency (n=120)	Percentage
1.	Low	22	18.33
2.	Medium	64	53.34
3.	High	34	28.33
	Total	**120**	**100.00**

The data presented in Table-1 revealed that majority (53.34%) of the respondents had medium level of knowledge about recommended pomegranate cultivation technologies followed by 28.33 per cent and 18.33 per cent of the respondents having high and low level of knowledge, respectively. Similar finding was also reported by Baswante *et al*., (2022) and Prashanth *et al*., (2018).

The medium knowledge level of majority of the cotton growers might be due to the fact that the farmers have good extension contacts and information sources.

Comment [5]: Reference crop???

Table 2. Distribution of respondents according to their overall attitude level

Sr. No.	Category	Frequency (n=120)	Percentage
1.	Low	29	24.16
2.	Medium	52	43.33
3.	High	39	32.50
	Total	**120**	**100.00**

From table-2, it can be seen that majority (43.33 %) of the respondents had medium level of attitude towards improved pomegranate cultivation technology, followed by high (32.50 %) and low (24.16 %) level of attitude. Similar finding was also reported by Dhakal *et al*., (2021).

The medium attitude level of pomegranate growers followed by high level is might be due to the fact that farmers had relatively high mass media exposure and risk bearing capacity.

Table 3. Relationship between knowledge and attitude level of pomegranate growers with independent variables

S. No.	Independent variables	Correlation coefficient (r)	
		Knowledge	**Attitude**
1.	Age	0.134^{NS}	-0.261*
2.	Marital status	0.122^{NS}	0.127^{NS}
3.	Education	0.264*	0.285*
4.	Occupation	0.342*	0.319*
5.	Type of House	0.163^{NS}	0.143^{NS}
6.	Size of land holding	0.339*	0.359*
7.	Annual income	0.525**	0.512**
8.	Family type	0.237*	0.118^{NS}
9.	Mass media exposure	0.462**	0.524**
10.	Risk bearing capacity	0.528**	0.471**
11.	Progressiveness	0.477**	0.568**
12.	Scientific Orientation	0.523**	0.487**

** Significant at 0.05 per cent level of probability*

*** Significant at 0.01 per cent level of probability*

NS=Non- Significamt

From table 3 it reveals that the independent variables such as education, occupation, size of land holding, family type were significantly correlated with knowledge level of pomegranate growers at 0.05 per cent level of significance. Annual income, mass media exposure, risk bearing capacity, progressiveness and scientific orientation were significantly correlated with knowledge level of pomegranate growers at 0.01 per cent level of significance. Whereas, age, marital status and type of house were non-significant with knowledge level of pomegranate growers. In the case of relationship between attitude level of pomegranate growers and independent variables, variables such as education, occupation and size of land holding were significantly correlated with attitude of pomegranate growers at 0.05 per cent level of significance. Annual income, mass media exposure, risk bearing capacity, progressiveness and scientific orientation were significantly correlated with attitude of pomegranate growers at 0.01 per cent level of significance. Whereas, marital status, type of house and family type are non-significant with attitude level of pomegranate growers and age is negatively correlated at 0.05 per cent level of significance.

Comment [6]: Few cross referencings will make the report more robust. This is essential.

Conclusion

It is concluded from the study that most of the pomegranate growers had medium level of knowledge followed by high level of knowledge regarding recommended pomegranate cultivation technology. Majority of the pomegranate growers had medium level of attitude followed by high level of attitude about recommended pomegranate cultivation technology. Variables such as education, occupation, size of land holding, annual income, family type, mass media exposure, risk bearing capacity, progressiveness and scientific orientation affect the knowledge level of pomegranate growers and age, marital status and type of house had no effect on knowledge level of pomegranate growers. Variables such as education, occupation, size of land holding, annual income, mass media exposure, risk bearing capacity, progressiveness and scientific orientation affected the attitude of pomegranate growers. Whereas, marital status, type of house and family type had no effect on attitude level of pomegranate growers and age had negative effect. To boost their knowledge level, the Extension Department should conduct integrated extension initiatives (trainings, demonstrations, field days, publications, and so on) to give pomegranate producers with the technical knowledge they need to improve their growing techniques. The future prospects are: Investigation on the potential for pomegranate export marketing. Pomegranate growers can benefit from capacity-building projects. A study of an integrated pomegranate-based

Comment [7]: Delete

Comment [8]: Delete as above

Comment [9]: Delete 'with'

farming system for sustainable agriculture. Developing appropriate marketing methods for pomegranate growers.

REFERENCES

Aher, Y. L. and Rahane, S. (2016). An overview of pomegranate cultivation in Ahmednagar district. *International Research Journal of Engineering and Technology. 3*(1):462-46.

Baswante, S. B., Ahire, R. D. and Somvanshi, R. M. (2022).Knowledge and adoption of pomegranate production technology.*The Pharma Innovation Journal*. *11*(12): 1104-1107

Dhakal, A. R., Mahatara, B., Parajuli, S., Budhathoki, S., Paudel, S. and Regmi, S. (2021). Farmers' Knowledge Level and Readiness in Adoption of Dragon Fruit (Hylocereus Sp.) in Chitwan District, Nepal. *Food and Agri Economics Review (FAER) 1*(1): 57-63

Dhandhukia, R. D., Parjapati, M. M., Patel, R. N. and Prajapati, M. R. (2014). Encouraging Attributes in Adoption of Pomegranate Cultivation Practices by the Pomegranate Growers. *Gujarat Journal of Extension Education. 24*:51-54.

Dound, R. V., Suramwad, S. R. and Kolgane, B. T. (2018). Study of socio-economic characteristics of pomegranate growing farmers in Solapur District of Maharashtra State. *Journal of Pharmacognosy and Photochemistry.* SP1: 2959-2962

Ghadge, S. N. and Fattepurkar, S. C. (2018). Adoption of Recommended Practices for Control of Oily Spot Disease on Pomegranate in Solapur District. *Indian Res. J. Ext. Edu. 18* (4): 41-44

Jakkawad, S. R., Sawant, R. C. and Pawar, S. B. (2017). Knowledge and Adoption Level of the Pomegranate Growers in Aurangabad District of Marathwada Region of Maharashtra.*Trends in Biosciences 10* (24): 5066-5069

Morwal, B. R., Pagaria, P. and Das, S. (2018). Characteristic and Adoption Behaviour of Pomegranate Growers in Barmer District Rajasthan, India. *Int. J. Curr. Microbiol. App. Sci. 7*(09): 2527-2533. doi: https://doi.org/10.20546/ijcmas.2018.709.31

Prashanth, R., Jahanara and Bose, D. K. (2018). Knowledge level of farmers regarding improved cultivation practices of pomegranate crop in Chitradurga district of Karnataka. *Journal of Pharmacognosy and Photo Phytochemistry. 7*(3):1766-1768.

Rede, G.D., Bhattacharyya, K. and Kumar, N. (2018). Socio-economic characteristics of selected pomegranate growers in Solapur district of Maharashtra. *Multilogic in science*. *7*(15): 205-207.

Saroj, P. L and Kumar, R. (2019). Recent advances in pomegranate production in India-a review. *Annals of Horticulture*, *12*. doi:10.5958/0976-4623.2019.00010.0

Comment [10]: Ccheck out if within text. Cant be found .