Original Research Article

ASSESSMENT OF KNOWLEDGE ON POMEGRANATE PRODUCTION TECHNOLOGY OF POMEGRANATE GROWERS OF BANASKANTHA DISTRICT, GUJARAT

ABSTRACT

The present investigation was carried out to study the pre- and post-training assessments of pomegranate growers on the production technology of pomegranate. On-campus and off-campus trainings were organized for the farmers of four talukas in the KVK jurisdiction area on different production aspects of pomegranate. The overall average knowledge level indicated that 48.33 per cent growers had low knowledge and 36.50 percent had medium knowledge. However, 15.17 percent of pomegranate growers had higher knowledge of pomegranate production technology. In the case of knowledge on various aspects of pomegranate production technology, 20.67 percent and 16.67 percent of growers had good knowledge about integrated nutrient management and harvesting techniques, respectively. However, 49.33 and 40.00 percent of growers were found to have a low level of knowledge on harvesting techniques, management of fruit cracking and sun scalding, and integrated nutrient management. In cases of knowledge on post-harvest handling (61.33), pest and disease management (56.00), bahar management (50.67), layout and planting, management of fruit cracking, and sun Scalding (48.67), Fruit Setting and Fruit Quality Management (48.00) percent of pomegranate growers were found to have little knowledge.

Key –Pomegranate, Knowledge level, production technology

INTRODUCTION

Pomegranate is an important fruit crop in arid and semi-arid regions. It belongs to the family Punicaceae and the genus Punica. Pomegranate fruits are mainly used for table purposes; however, they are also processed to make products like bottled juice, syrup, jelly, and wine. It is a good source of carbohydrates (14.5%), proteins (1.6%), fats (0.1%), and minerals (0.7%), comprising calcium (10 mg/100 g), magnesium (12 mg/100 g), phosphorus (70 mg/100 g), and iron (0.3 mg/100 g). Pomegranate also supplies vitamins like thiamine, riboflavin, nicotinic acid, and ascorbic acid [2]. The rind of pomegranate fruits contains tannins, which are successfully used in the leather industry and pharmaceuticals [11]. The rind of fruit is also a source of dye, which has been used for dying wool and silk. The pomegranate rind possesses intestinal disorders. That extract from fruits has antiviral activity [10]. Gujarat is the third-largest pomegranate-growing state in India after Maharashtra and Karnataka [3]. Kutch and Banaskantha is the major pomegranate-growing districts in the state, sharing about 77% of the total area of Gujarat. Since decades, the pomegranate area in northern Gujarat has increased substantially, particularly in Banaskantha districts, which share about 82% of the area of the north Gujarat region [4], but the productivity and quality of fruits are deteriorating. Since the pomegranate crop in the area was not native, the knowledge of farmers regarding scientific production technology practices was low. A farmer needs sufficient knowledge about cultivation practices, which is crucial. Training in the production practices of pomegranates provides farmers with the knowledge and skills needed to overcome challenges, optimize production, and ultimately improve their livelihoods. While it's true that

some farmers might initially lack knowledge, providing training addresses this gap and empowers them to become more successful in their farming. Therefore, it felt necessary to find out the knowledge level of the pomegranate growers before developing a suitable strategy and planning an effective capacity-building program to overcome the problems related to the pomegranate production practices.

METHODOLOGY

The farmerstraining programmeswasorganized at Krishi Vigyan Kendra Banakanha II Tharad Gujarat during themonth of Jan to Dec 2019-2022. The farmers were covered from five talukas of KVK jurisdiction area of the district viz;TharadLakhani, Deodhar,Bhabhar and Vav.Total30training programmes including seven On campus and eight Off campus were conducted to impart the knowledgeondifferentaspects of pomegranateproduction (Fig.1). Total 150 trainee farmers were randomly selected forpre and post training evaluation. The questionerwas prepared to evaluate the knowledge. Theknowledge was assessed on low, medium andhighlevelcategories.Thequestionson difference aspects wereaskedandpreandposttraining assessment was done. The collected data weretabulatedandanalyzed.

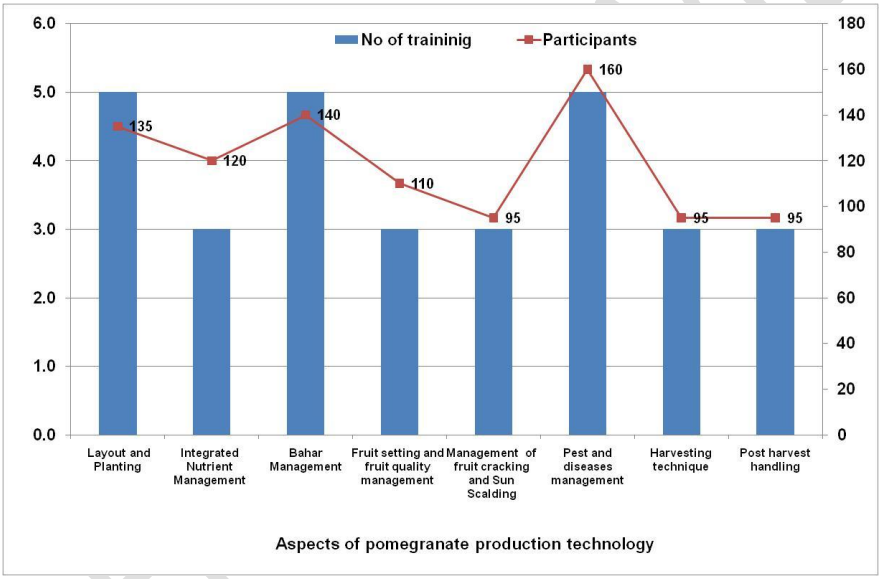

Fig: 1.No. of Trainings conducted on the various aspect of pomegranate production technology and participants

RESULTSANDDISCUSSION

The knowledge level of the pomegranate growers (trainees) on different aspects of the production technology of pomegranate is presented in Table 1. The data depicted in the table indicated that 15.17 percent of pomegranate growers had a high level of knowledge. 38.33 percent of growers had a medium level of knowledge. However, 67.75 percent of pomegranate growers had low-level knowledge. In the case of knowledge on various aspects of pomegranate production technology, 20.67 percent and 16.67 percent of growers had good knowledge about integrated nutrient management and harvesting techniques, respectively. However, 49.33 and 40.00 percent of growers were found to have a low level of knowledge on harvesting techniques, management of fruit cracking and sun Scalding and integrated nutrient management. In terms of knowledge on post-harvest handling (61.33), pest and disease management (56.00), bahar management (50.67), layout and planting, and management of fruit cracking and sun Scalding 48.67, fruit setting, and fruit quality management (48.00 percent), pomegranate growers were found to have little knowledge. All aspects of pomegranate production, from

layout and planting to post-harvest handling, are crucial for commercially viable pomegranate production. The growers should be well equipped with this knowledge. An appropriate understanding of improved cultivation practices helped to increase their knowledge level (Prashanth et al. [9]. The current finding reveals that there is a large gap in the appropriate knowledge of the pomegranate growers on production technology. The findings are in agreement with Jakkawadet al. [7] and Baswante*et al*. [5].

Table1.KnowledgelevelofthePomegranate grower(trainees)on various Productions technology practices of Pomegranate

Sr. No.	Particulars	Frequency (N = 150)		
		Low	Medium	High
1	Layout and Planting	73(48.67*)	50 (33.33)	27(18.00)
2	Integrated Nutrient Management	59(39.33)	60(40.00)	31(20.67)
3	Bahar Management	76(50.67)	54(36.00)	20(13.33)
4	Fruit setting and fruit quality management	72(48.00)	56(37.33)	22(14.67)
5	Management of fruit cracking and Sun Scalding	73(48.67)	60(40.00)	17(11.33)
6	Pest and diseases management	84(56.00)	44(29.33)	22(14.67)
7	Harvesting technique	51(34.00)	74(49.33)	25(16.67)
8	Post harvest handling	92(61.33)	40(26.67)	18(12.00)
Overall average		**72.50 (48.33)**	**54.75 (36.50)**	**22.75 (15.17)**

*(*indicatespercentageofrespectivefrequencies)*

Table2.Knowledgelevelof the pomegranategrowers on different aspects of productiontechnology after pre- and post training evaluation

Sr.No.	Technology	Knowledge(Score)			Per cent change	Rank
		Before	After	Mean difference		
1	Layout and Planting	20.86	42.48	21.62	103.64	III
2	Integrated Nutrient Management	36.39	52.26	15.87	43.61	VIII
3	Bahar Management	26.28	59.17	32.89	125.15	I
4	Fruit setting and fruit quality management	18.77	35.68	16.91	90.09	V
5	Management of fruit cracking and Sun Scalding	38.62	71.49	32.87	85.11	VII
6	Pest and diseases management	36.03	75.08	39.05	108.38	II
7	Harvesting technique	43.17	81.64	38.47	89.11	VI
8	Post harvest handling	41.60	81.32	39.72	95.48	IV
Overallaveragescore		**32.72**	**62.39**	**29.68**	**92.57**	

The knowledge improvement of pomegranate growers on different aspects of production technology is elucidated in Table 2. The data on pre-evaluation revealed that the extent of knowledge on the aspect of fruit setting and fruit quality management practices had the lowest score (18.77). Fruit quality management is an integrated approach that helps farmers gets competitive prices from the market. The maximum score (43.17) was recorded in the aspect of harvesting technique, as maturity

indices and harvesting technique were known to the pomegranate growers. The highest percentage change in knowledge (125.15) was observed in the aspect of bahar management, as this is a crucial aspect for pomegranate production that decides the quality and quantity of production and contributes to its higher benefit and low cost of production. The flowering season is decided based on the weather situation, resource availability, and market position. The participants acquired knowledge on this aspect can ensure the maximum profit. The mean knowledge score on pest and disease management after imparting training was 108.33, compared to the mean knowledge score of 36.03 before training. The overall improvement in knowledge level was 92.57 percent. The findings coincide with those of Sontakke [12] and Prashanth *et al*. [9]. The present findings indicate that there is scope to improve knowledge levels on various aspects of pomegranate production technology. The assessment of knowledge pre- and post-training of the pomegranate growers was in agreement with the findings of Malshe et al. [8].

CONCLUSIONS

The appraisal of results regarding the extent of knowledge about pomegranate production technologies by the growers clearly indicates that more than fifty percent (48.33%) of the growers had a low level of knowledge about pomegranate production technologies. While the training has increased the significant (92.57) percent of **o**verall averageknowledge on various aspects of pomegranate production, The efficient training programs can improve the knowledge level of the farmers about the technology, which can help them manage their orchards effectively, increase production, and fetch a good price for the produce.

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