



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; 11(12): 1104-1107
© 2022 TPI
www.thepharmajournal.com
Received: 02-10-2022
Accepted: 06-11-2022

Baswante SB

Department of Extension
Education, Vasantnao Naik
Marathwada Krishi Vidyapeeth,
Parbhani, Maharashtra, India

Ahire RD

Department of Extension
Education, Vasantnao Naik
Marathwada Krishi Vidyapeeth,
Parbhani, Maharashtra, India

Somvanshi RM

Department of Extension
Education, Dr. Panjabrao
Deshmukh Krishi Vidyapeeth,
Akola, Maharashtra, India

Knowledge and adoption of pomegranate production technology

Baswante SB, Ahire RD and Somvanshi RM

Abstract

The present study was conducted with specific objective to study the Knowledge and adoption of pomegranate production technology in Aurangabad district. 02 tahsils and four villages from each tahsil were selected purposively. Fifteen farmers from eight villages were selected to comprise a sample of 120 respondents.

It was noticed that majority of farmers As regards the education, 40.80 percent of farmers were educated up to secondary school level and 02.50 percent of farmers were illiterate.

It is also observed during the study that from 46.70 percent farmers possessed small and semi-medium land holding. The findings also indicate that 71.20 percent of farmers had medium level of annual income and 20.00 percent of farmers had high level of annual income. It was show that 56.66 percent of the respondents had farming experience of 12 to 32 years and 15.83 percent had farming experience up to 11 years. It was noticed that 58.33 percent of the respondents had medium social participation and 20.84 percent of the respondents were found in low category of social participation. It was also found in research that 92.50 percent farmers had medium extension contact. It was notice that 62.50 percent of the respondents had medium category of sources of information and 18.33 percent of farmers had low category of sources of information. It was noticed that most of the respondents 50.83 had medium level of economic motivation and The findings also indicate that 65.83 percent of famers had medium risk orientation.

Keywords: Adoption, pomegranate production technology, farmers

Introduction

Pomegranate (*Punica granatum* L.) belongs to the family puniceae, having $2n=16$ number of chromosome. Pomegranate (*Punica granatum* L.), an ancient and commercially important fruit of both tropical and subtropical countries, belongs to the smallest botanical family puniceae. 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. In India pomegranate is extensively grown in Maharashtra, Karnataka, Andhra Pradesh, Gujarat and it picking up fast in Himachal Pradesh, Rajasthan and Madhya Pradesh. The total area under pomegranate in India is 1.27 lakh ha out of which 90,000 ha is in Maharashtra. The total production in India is 822.80 thousand MT. and production of Maharashtra is 477 MT. Export of pomegranate has increased from 18.21 thousand MT (Rs. 710 million) in 2010-2011 to 31.33 thousand MT (Rs.2985.00 million) in 2013-2014 .

Methodology

The present Study was conducted in Aurangabad district of Marathwada region in Maharashtra state. Out of nine talukas of Aurangabad district Aurangabad and Phulambri tahsils have been purposively selected because there tahsil constituted maximum area under pomegranate cultivation. Four villages from each talukas were selected purposively. From each village fifteen pomegranate growers were selected purposively. Thus a total of 120 respondents were selected as sample respondents for this study.

The respondents were personally interviewed with interview schedule. The data were tabulated and analyzed by using statistical tools like frequency, percentage and correlation coefficient.

Corresponding Author:

Baswante SB

Department of Extension
Education, Vasantnao Naik
Marathwada Krishi Vidyapeeth,
Parbhani, Maharashtra, India

Results

Overall knowledge level

Table 1: Distribution of the respondents according to their level of knowledge

Sr. No.	Knowledge Level	Frequency	Percentage
1	Low (Up to 25)	21	17.50
2	Medium (26 to 29)	62	51.66
3	High (30 and above)	37	30.83
	Total	120	100.00

The data presented in Table 1 revealed that more than fifty percent (51.66%) of the respondents had medium level of knowledge about pomegranate production technologies, followed by 30.83 percent and 17.50 percent of the respondents having high and low level of knowledge, respectively.

Table 2: Practice wise knowledge of the respondents about pomegranate production technologies.

	Particulars	Knowledge level	
		Frequency	Percent
1.	Proper selection of soil.	116	96.66
2.	Climatic condition during crop growth.	87	72.50
3.	Seedlings or grafts should be made.	80	66.66
4.	Age of seedling.	87	72.50
5.	Spacing between two plant.	99	82.50
6.	Plant population in one hectare.	102	85.00
7.	Method of proper irrigation.	106	88.33
8.	Knowledge about shelter belt.	90	75.00
9.	Benefit of shelter belt to pomegranate orchid.	52	43.33
10.	Time of training to the pomegranate plant.	91	75.83
11.	Dose of fertilizer during a year.	77	64.16
12.	Time of apply Bordeaux paste & quantity.	107	89.16
13.	Benefit of mulching in pomegranate orchid.	100	83.33
14.	Proper method of fertilizer application.	115	95.83
15.	Proper time of pruning.	62	51.66
16.	Care should be taken during pruning of plant.	65	54.16
17.	Use of disinfectant to pruning knife before the pruning in pomegranate orchid.	50	41.66
18.	Proper practice of Thinning of fruit.	88	73.33
19.	Use of proper chemical to control the leaf eating caterpillar.	55	45.83
20.	Proper practice of Thinning of fruit.	89	74.16
21.	How many fruits have been attached to the plant in first year.	79	65.83
22.	Proper method of Sorting of fruit.	103	85.83
23.	Use of proper method to control the defoliation of flower during bahar.	40	33.33
24.	Use of proper practice to control the cracking of fruit.	65	54.16
25.	Use of proper chemical to control the infestation of aphid as a sucking pest	99	82.50
26.	Occurrence of infestation of the aphid on pomegranate orchid	50	41.66
27.	Infestation of blister bittle occurred on pomegranate orchid as a sucking pest.	30	25.00
28.	Knowledge about biological control for the aphid, jassid, thrips, mealy bugs and whitefly.	61	50.83
29.	Use of chemical to minimize the infestation of lepidopterans insect on pomegranate crop.	54	45.00
30.	Knowledge about biological control about fruit destructing larva on pomegranate plant.	53	44.16
31.	Yield of fruits per plant of pomegranate in first season.	103	85.83
32.	Choosing recommended the variety of sweetness.(G-137)	96	80.00
33.	Time require for the maturity of fruit.	106	88.33
34.	Knowledge about bahar.	101	84.16

Practice wise knowledge of pomegranate production technologies by respondents is given in table 2 revealed that the pomegranate production technologies known to the most of the pomegranate growers were those i.e. proper selection of soil. (96.66), proper method of fertilizer application in pomegranate orchid. (95.83%), time of application of Bordeaux paste in the pomegranate orchid. (89.16%), recommended method of proper irrigation in orchid and time require for the maturity of fruit. (88.33%), yield of fruits per plant of pomegranate in first season and proper method of sorting of fruit. (85.83%), plant population in one hectare. (85.00%), knowledge about bahar. (84.16%), benefit of mulching in pomegranate orchid. (83.33%), use of proper chemical to control the infestation of aphid as a sucking pest and spacing between two plant. (82.50%), choosing recommended the variety of sweetness (g-137) (80.00%), time of training to the pomegranate plant. (75.83%).

Knowledge about shelter belt in pomegranate orchid. (75.00%), Proper practice of Thinning of fruit. (74.16%), Proper practice of Thinning of fruit in orchid. (73.33%), Climatic condition during crop growth Age of seedling (72.50%), Seedlings or grafts should be made. (66.66%), How many fruits have been on plant in first year. (65.83%), Dose of fertilizer during a year. (64.16%), had to the respondents.

Knowledge of Care should be taken during pruning of plant and Use of proper practice to control the cracking of fruit (54.16%) of respondents. Knowing of proper time of pruning (51.66%), Knowledge about biological control for the aphid, jassid, thrips, mealy bugs and whitefly. (50.83%), Use of proper chemical to control the leaf eating caterpillar. (45.83%).

Knowledge regarding use of chemical to minimize the infestation of lepidopterans insect on pomegranate crop. (45.00%), Knowledge about biological control about fruit destructing larva on pomegranate plant (44.16%), Benefit of shelter belt to pomegranate orchid (43.33%), Use of disinfectant to pruning knife before the pruning in pomegranate orchid and Occurrence of infestation of the aphid on pomegranate orchid (41.66%), Use of proper method to control the defoliation of flower during bahar. (33.33%), Infestation of blister bittle occurred on pomegranate orchid as a sucking pest (25.00%), had to the respondents.

Knowledge index

Table 3: Distribution of the respondents according to their knowledge index about pomegranate production technologies.

Sr. No.	Knowledge index	Frequency	Percentage
1	Low (up to 72)	20	16.67
2	Medium (73 to 87)	77	64.16
3	High (88 & above)	23	19.17
	Total	120	100.00

It is reported from Table. 3 that majority (64.16%) of the respondents had medium knowledge index while, 19.67 percent of the pomegranate growers had high and only 16.67 percent of them had low knowledge index.

Overall adoption level

Table 4: Distribution of the respondents according to their level of overall adoption

Sr. No.	Adoption Level	Frequency	Percentage
1	Low (Up to 30)	15	12.50
2	Medium (31 to 37)	81	67.50
3	High (38 and above)	24	20.00
	Total	120	100.00

It is elucidated from Table 4 that majority (67.50%) percent respondents had medium level of adoption of recommended pomegranate production technologies, followed by 20.00

percent respondents had high level of adoption and 12.50 percent had low level of adoption.

Table 5: Practice wise adoption of pomegranate production technologies by the respondents.

Sr. No.	Particulars	Adoption level					
		Full		Partial		Non	
		Freq.	percent	Freq.	percent	Freq.	percent
1.	Recommended planting time	40	33.33	70	58.33	3	2.50
2.	Proper selection of soil	90	75.00	30	25.00	00	00
3.	Quantity of FYM per plant (20-25 kg.)	82	68.33	28	23.33	10	8.34
4.	Use of recommended variety	86	65.83	34	28.34	0	00
5.	Age of seedlings/grafts (3 month).	79	54.17	40	33.33	1	0.83
6.	Recommended dose of nutrient (N:P:K)	46	38.33	57	47.50	17	14.16
7.	Use of shelter belt	36	30.00	50	41.66	34	28.34
8.	Use of mulching (plastic, organic.)	67	55.83	25	20.83	28	23.34
9.	Recommended method of fertilizer application.	60	50.00	45	37.50	15	12.50
10.	Time of pruning.	75	62.50	34	28.34	11	9.16
11.	Spacing between two plants (3*4.5).	80	66.66	30	25.00	10	8.34
12.	Use of method of grafting.	20	16.67	30	25.00	70	58.33
13.	Care should be taken during pruning of plant.	20	16.67	22	18.33	78	65.00
14.	Use of proper method to control the defoliation of flower during bahar.	62	51.66	46	38.33	12	10.00
15.	Control of oily spot disease.	70	58.33	40	33.33	10	8.33
16.	Method of irrigation.	65	54.16	53	44.16	2	1.66
17.	Use of proper practice to control the cracking of fruit.	24	20.00	62	51.66	34	28.34
18.	Control measure of sucking pest.	46	38.33	48	40.00	26	21.66
19.	Adoption of fruit thinning practice in pomegranate orchid.	22	18.33	64	53.33	34	28.34
20.	Control measures on flower insects.	40	33.33	59	49.16	21	17.50
21.	Recommended biological control of (<i>Chrysoperla carnea</i>)	11	9.16	15	12.50	94	78.33
22.	Control measures on lepidopterousinsect.	46	38.34	57	47.50	17	14.16
23.	Recommended biological control of (<i>Trichogramma chilonis</i>)	22	18.33	64	53.33	34	28.34
24.	Practices of grading of fruits.	40	33.33	49	40.83	31	25.83
25.	Recommended variety for sweetness.(G-137)	05	4.17	100	83.33	15	12.50
26.	Use of proper method to control the defoliation of flower during bahar (NAA, Finofix).	47	39.16	70	58.33	3	2.50

With a view to know the extent of adoption of various pomegranate production technologies data have been tabulated in Table 5, the critical look to data revealed that majority of the respondents have adopted some practices such as, Proper selection of soil (75.00%), Quantity of FYM per plant (68.33%), Spacing between two plants (66.66%), Use of recommended variety (65.83%), Time of pruning (62.50%), Control of oily spot disease (58.33%), Use of mulching (55.83%), Age of seedlings/grafts (3 month (54.17%), Method of irrigation (54.16%), Use of proper method to control the defoliation of flower during bahar (51.66%), Recommended method of fertilizer application (50.00%), Use of proper method to control the defoliation of flower during bahar (NAA, Finofix) (39.16%), Control measures on lepidopterus insect. (38.34%), Control measure of sucking pest and Recommended dose of nutrient (N:P:K) (38.33%), Recommended planting time and Control measures of flower insects and Practices of grading of fruits (33.33%), Use of shelter belt (30.00%), Use of proper practice to control the cracking of fruit.(20.00%), Adoption of fruit thinning practice in pomegranate orchid and Recommended biological control of (*Trichogramma chilonis*) (18.33%), Use of method of grafting and Care should be taken during pruning of plant (16.67%), Recommended biological control of (*Chrysoperla carnea*) (9.16%), Recommended variety for sweetness.(G-137) (4.17%).

It was also evident from Table 5 that the most of the respondents had not adopted the pomegranate production technologies like Recommended biological control of

(*Chrysoperla carnea*) (78.33%), Care should be taken during pruning of plant (65.00%), Use of method of grafting (58.33%), Use of shelter belt and Use of proper practice to control the cracking of fruit and Recommended biological control of (*Trichogramma chilonis*) (28.34%), Practices of grading of fruits (25.83%), Use of mulching (plastic, organic.) and Use of shelter belt (23.34%), Control measure of sucking pest (21.66%), Control measures of flower insects (17.50%), Recommended dose of nutrient (N:P:K) and Control measures on lepidopterus insect (14.16%), Recommended method of fertilizer application and Recommended variety for sweetness. (G-137) (12.50%), Use of proper method to control the defoliation of flower during bahar (10.00%), Time of pruning (9.16%), Quantity of FYM per plant (20-25 kg.) and Spacing between two plants (3*4.5) (8.34%), Control of oily spot disease (8.33%), Recommended planting time and Use of proper method to control the defoliation of flower during bahar (NAA, Finofix) (2.50%).

It was also observed that most of the respondents had partially adopted the pomegranate production technologies like Recommended variety for sweetness (G-137) (83.33%), Recommended planting time and Use of proper method to control the defoliation of flower during bahar (NAA, Finofix) (58.33%), Adoption of fruit thinning practice in pomegranate orchid and Recommended biological control of (*Trichogramma chilonis*) (53.33%), Use of proper practice to control the cracking of fruit (51.66%), Control measures on flower insects (49.16%), Control measures on lepidopterus insect. (47.50%) Method of irrigation (44.16%), Use of

shelter belt (41.66%), Practices of grading of fruits (40.83%), Control measure of sucking pest (40.00%), Use of proper method to control the defoliation of flower during bahar. (38.33%), Recommended method of fertilizer application (37.50%), Age of seedlings/grafts (3 month) and Control of oily spot disease (33.33%), Proper selection of soil and Spacing between two plants (3*4.5) and Use of method of grafting (25.00%).

Adoption index

Table 6: Distribution of the respondents according to their adoption index

Sr. No.	Adoption Index	Frequency	Percentage
1	Low (Up to 59)	24	20.00
2	Medium (60 to 73)	75	62.50
3	High (74 and above)	21	17.50
	Total	120	100.00

It is elucidated from Table 6 that majority of (62.50%) respondents had medium adoption index of recommended pomegranate production technologies, followed by 20.00 percent respondents had low and 17.50 percent had high adoption index.

Conclusions

The appraisal of results regarding extent of knowledge about pomegranate production technologies by respondents clearly indicates that more than fifty percent (51.66%) of the respondents had medium level of knowledge about pomegranate production technologies. & It was observed that majority (67.50%) percent respondents had medium level of adoption of recommended pomegranate production technologies.

References

1. Asane PG. Knowledge and adoption of cultivation practices recommended for soybean. M.Sc. (Agri.) Thesis, submitted to Dr. Punjabrao Deshmukh Krishi Vidyapeeth, Akola; c2003.
2. Atar RS. Study on knowledge and adoption of recommended grape cultivation practices by the grape growers, M.Sc. (Agri.), Thesis, submitted to MKV, Parbhani (M.S.); c2012.
3. Badale NS. Knowledge and adoption of recommended soybean production technology by the farmers of Latur district in Marathwada region. (M.Sc Agri.) Thesis, submitted to Marathwada Krishi Vidyapeeth, Parbhani; c2007.
4. Bedre VS. Knowledge and Adoption of Recommended Package Practices of Okra Growers. M.Sc. (Agri.) Thesis, MAU, Parbhani; c2008.
5. Bedre VS. Knowledge and adoption of recommended package of practices by okra growers. M.Sc. (Agri.) Thesis, Marathwada Krishi Vidyapeeth, Parbhani, 2009.
6. Bhandare CL. Adoption of recommended package of practices of sweet orange growers in Aurangabad district. M.Sc. (Agri.) Thesis, MKV, Parbhani; c2011.
7. Bhosale SS. Knowledge and adoption of post harvest technology by the pomegranate growers in Sangola tahasil of Solapur district. M.Sc. (Agri.) thesis (unpublished). MPKV, Rahuri; c2003.