

Original Research Article

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Knowledge of Farmers towards Reasons for Decline of Orange Orchards in Amravati District, India

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ABSTRACT

The present investigation entitled “knowledge of farmers towards reasons for decline of orange orchards in Amravati District” has planned and conducted with the general objectives to study the knowledge of orange growers and exploratory design of social research was used in the present study. In all, 150 farmers were selected by personally interviewing the respondents with the help of structural schedule. Collected data were carefully examined, classified and tabulated. Frequency, mean, standard deviation, correlation and multiple regression analysis have been summarized as below. Findings revealed that majority of the respondents were of young and old age group and most of the respondents were educated upto high school level. Near about half of the respondents were in medium land holding range between 4.01 to 10 hectares. Whereas, majority of the respondents had high family size. Nearly 88% of the respondents had medium size of orchard. Most of them had their annual income ranging from Rs. 1, 00,001 to Rs. 1, 50,000/- and were belonged to lower middle category of socio-economic status. However most of the respondents had low source of information and most of the respondents had well as the sources of irrigation and most of the respondents had high experience in orange cultivation. Findings revealed that majority of the respondents possessed medium level of knowledge about the recommended orange cultivation practices. The per cent change in area under orange was 80.67 per cent.

Keywords

Frequency, Mean, Standard deviation, Correlation and multiple regression

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Introduction

Nagpur Mandarin orange is one of the most important fruits of Maharashtra state. The area production and yield per hectare of orange in Maharashtra during the year 2012-13 were 311.00 hectares (000), 2524 tones (000) and 9898.00 Kg/ha respectively. The important orange growing districts in Maharashtra are Nagpur, Amravati, Wardha, Yavatmal and Akola. In Amravati District orange cultivation

covers an area of 48081.50 hectares with production of 336570.75 MT and productivity of 6.27 MT/ha during 2013-14. This shows that the average yield of orange in Amravati district is 8.0512 tones/ ha. Which is obviously less than average yield of Maharashtra state (9.731 tones/ha) In spite of the high genetic potential in the crop and availability of latest technology the productivity of orange remained at 8.0512 tones/ha probably, it may be because of

various production constraints like non availability of inputs and their exorbitant prices (Chikhale, 1993 and Bhople *et al.*, 1996) lack of knowledge and skill (Gomase, 1997) and irrigation constraints (Kadam, 1999). In this context the present study was undertaken to identify the constraints encountered by orange growers during use of various reasons for decline of orange cultivation.

Materials and Methods

The study was conducted in purposively selected Achalpur Panchayat Samiti of Amravati district in Maharashtra state. The list of villages having cultivation of orange was obtained from the office of the panchayat samiti Achalpur. Out of these, 15 villages were purposively selected on the basis of large area under orange. A list of orange growers with orange orchards in bearing stage was prepared from each selected village in consultation with Gramsevak and Talathi of respective villages. From this list, 150 orange growers were selected for the study. The data were gathered through personal interview with the selected orange growers with the help of an interview schedules in the orange orchards. The independent variables were selected age, education, family size, landholding, annual income, size of orchard, socio economic status, innovativeness, risk preference etc. The statistical tools namely mean, standard deviation, co-efficient, of correlation and co-efficient of regression were adapted to test the significantly of the results.

Results and Discussion

Distribution of the respondents according to their practice wise knowledge the knowledge of orange growers as per planning was studied and data depicted in Table 1 clearly shows that that respondents had knowledge about recommended percent of hormone for control

of fruit dropping (48 per cent), Major disease of orange (78 per cent), Pest control measure (81.33 per cent), Training seasons (81.33 per cent), Lime concentration (82 per cent), Disease control measure (82.67 per cent), Pit depth (84.00 per cent), Recommended training method (84.00 per cent), Fertilizers recommendation (84.67 per cent), Major pest of orange crop (84.67 per cent), Pit filling material (84.67 per cent), Interval for irrigation orchards (85.33 per cent), Recommended hormone use for fruit dropping (85.33 per cent), Selection of root stock (85.33 per cent), Soil type (85.33 per cent), Plantation method (86.67 per cent), Economical year (87.33 per cent), Intercrops (87.33 per cent), recommended numbers of irrigation (87.33 per cent), Planting space (88.00 per cent), Recommended does for application of Bourdeux mixture (88.00 per cent), Recommended does for application of Bourdeux mixture (88.00 per cent), Recommended no. of fruit per plant (88.67 per cent), Variety (88.67 per cent), Applying Bourdeux mixture to trunk from ground level (89.33 per cent), Propagation method (89.33 per cent), Plants/ha (90.67 per cent), Recommended bahar treatment/year (90.67 per cent), Recommended period for cultivation of intercrops (90.67 per cent), Method of irrigation (91.33 per cent), Planting seasons (91.33 per cent), Pruning method (91.33 per cent), Recommended month for Bourdeux mixture (91.33 per cent), Recommended period for stopping irrigation prior to harvesting of fruit (91.33 per cent), Recommended time for water stress (92.00 per cent), Pruning season (92.67 per cent), Flowering time of mrug bahar (94.00 per cent), Recommended tillage operation at the time of fruiting stage (94.67 per cent), Flowering time ambia bahar (95.33 per cent), Harvesting time of ambia bahar (96.00 per cent), Harvesting time of mrug bahar (96.67 per cent), Intercropping system (96.67 per cent).

Table.1 Distribution of the respondents according to their practice wise knowledge

Sr. No	Practices	Knowledge (N=150)	
		Frequency	Percentage
1	Soil type (medium black)	128	85.33
2	Pit depth (1x1x1m)	126	84.00
3	Lime concentration (7 pH)	123	82.00
4	Planting seasons (monsoon)	137	91.33
5	Propagation method (grafting)	134	89.33
6	Selection of root stock (Jamberi and Rangpur)	128	85.33
7	Plantation method (square)	130	86.67
8	Planting space (6x6m)	132	88.00
9	Plants/ha (277)	136	90.67
10	Size of pits (1x1.5m)	132	88.00
11	Pit filling material (FYM 5kg + SSP 1/2kg/pit)	127	84.67
12	Variety (Kinnow, Nagpuri)	133	88.67
13	Fertilizers recommendation (1:1.25:1)	127	84.67
14	Recommended numbers of irrigation (22)	131	87.33
15	Method of irrigation (Furrow)	137	91.33
16	Intercropping system (Kharif- green gram, black gram, and soybean. Rabi- gram, wheat, tur)	145	96.67
17	Intercrops (vegetables viz., spinach, onion)	131	87.33
18	Recommended period for cultivation of intercrops (2 – 3 years)	136	90.67
19	Recommended training method (cutting)	126	84.00
20	Training seasons (June)	122	81.33
21	Pruning method (cutting)	137	91.33
22	Pruning season (June-oct)	139	92.67
23	Recommended bahar treatment/year (Ambia, mrug)	136	90.67
24	Recommended time for water stress (before harvesting)	138	92.00
25	Interval for irrigation orchards (50 days)	128	85.33
26	Recommended does for application of Bourdeux mixture (1:1:10)	132	88.00
27	Recommended month for Bourdeux mixyure (June- oct)	137	91.33
28	Applying Bourdeux mixture to trunk from ground level (1 to 1.5m)	134	89.33
29	Recommended tillage operation at the time of fruiting stage (harrowing)	142	94.67
30	Recommended hormone use for fruit dropping (NAA)	128	85.33
31	Recommended percent of hormone for control of fruit dropping (NAA 10ppm + 1 per cent urea + per liter water)	72	48.00
32	Recommended no. of fruit per plant (500-700)	133	88.67
33	Recommended period for stopping irrigation prior to harvesting of fruit (50days)	137	91.33
34	Economical year(18 -25 years)	131	87.33
35	Major disease of orange (citrus canker, gummosis of citrus)	117	78.00
36	Disease control measure (Bordux mixture, ridomi 7 Mz)	124	82.67
37	Major pest of orange crop (citrus black hopper, citrus white fly)	127	84.67
38	Pest control measure (Monocrotophos)	122	81.33
39	Flowering time of mrug bahar (June-July)	141	94.00
40	Flowering time ambia bahar(Jan-Feb)	143	95.33
41	Harvesting time of mrug bahar (Feb-march)	145	96.67
42	Harvesting time of ambia bahar (Nov-Dec)	144	96.00

Table.2 Distribution of respondents on the extent of their knowledge level

Sr.no.	Category	Respondents n= 150	
		Frequency	Percentage
1	Low	15	10.00
2	Medium	121	80.67
3	High	14	9.33
	Total	150	100

Thus, it can be concluded that the majority of the respondents had knowledge about maturity signs, soil type, average yield, protective irrigation, number of spraying and dusting, land preparation operation, preparatory village and intercropping system.

Beside investigation of practice wise knowledge the researcher has also made an attempt to categorize the respondents on the basis of extent of knowledge they possessed in respect of orange cultivation.

Distribution of the respondents according to their knowledge distribution of the respondents according to their knowledge level (Table 2) revealed that most of the respondents (80.67 per cent) had medium knowledge about recommended orange cultivation practices, followed by 10.00 per cent of the respondents with low knowledge. However only 9.33 per cent of the respondents belong to the category of high level knowledge.

The orange growers were low knowledge about all practices as per plan prepared by them earlier. The important reasons reported by orange growers in use of various resources in accordance of plan were exorbitant prices and non-availability fertilizers ignorance and lack of knowledge of soil testing, use of growth regulators and pests and disease and their control measures, non-availability of labour and irregular electric supply. In order to promote the efficient management and use of various reasons required for the decline of

orange orchards. It is essential to the orange growers with requisite and judicious use of man, material and capital resources.

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