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Anita R DeshmukhSRF-NICRA, ICAR-ATARI,
Zone IX, Jabalpur, Madhya
Pradesh, India**Sonam Agrawal**Assistant Professor, COA,
Powarkheda, JNKVV, Jabalpur,
Madhya Pradesh, India**Alok Suryawanshi**SRFNFSM Oilseeds, ICAR-
ATARI, Zone IX, Jabalpur,
Madhya Pradesh, India

Reasons for decline of orange orchards in Amravati district

Anita R Deshmukh, Sonam Agrawal and Alok Suryawanshi

Abstract

The present investigation entitled "Reasons for decline of orange orchards in Amravati District" has planned and conducted with the general objectives to study the extent of decline in area under orange 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. The per cent decline area under orange cultivation was 36.96 per cent. Majority of the respondents 67.34% had high decline in area of orange orchard, followed by 29.33% of the respondents had moderately decline in area under orange orchard.

Keywords: Frequency, decline, orange orchards

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)^[2, 1] lack of knowledge and skill (Gomase, 1997)^[3] and irrigation constraints (Kadam, 1999)^[4]. 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.

Methodology

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.

Correspondence

Sonam AgrawalAssistant Professor, COA,
Powarkheda, JNKVV, Jabalpur,
Madhya Pradesh, India

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.

Result and Discussion

The per cent change in area under orange of the respondents have been given.

Table 1: Decline in area under orange orchards of the respondents (N=150)

S. No.	Particulars	Area
1.	Area during base year (2003-2004)	574.48 ha.
2.	Area during study year (2005-2006)	362.15 ha.
3.	Decrease in area under orange	212.33 ha.
4.	Per cent of decline area under orange	36.96%

It was observed from Table 1 that the total area put by the selected respondent (n=150) under orange was 574.48 ha. During the base year and 362.15 ha. During the study year. Therefore, decrease in the area under orange crop was 212.33 ha. Hence per cent of decline area under orange cultivation was 36.96 per cent. Thus, it could be concluded that the per cent of decline area under other crop was 36.96 per cent. Logical reasoning behind this could be that the farmers with medium land holding did not allow them to try new technology on their farm. The less annual income did not allow to spent more money on plant protection, fertilizers etc. The farmers with lower middle socio-economic status did not possess improved implements required for orange cultivation. They may not be getting the expected price for orange in market and they might have medium knowledge about recommended orange cultivation practices because of less

extension contact. Therefore, the area under orange cultivation was decline. During survey, it was observed that orange growers were diverting towards cotton, tur, soybean, wheat and other vegetables. This has happened because of uncertainty of orange crop and fluctuating market prices to this crop. Beside investigation of per cent decline area under orange cultivation the researcher had also categorized the respondents on the basis of decline area under orange cultivation. The information has been presented in Table no. 1. Distribution of the respondents according to their decline in area under orange cultivation (Table 2) revealed that majority of the respondents (67.34%) had high decline area under orange cultivation. Followed by nearly one fourth respondents (29.33%) had moderate decline area under orange cultivation. While 3.33 per cent of the respondents had low declining area under orange cultivation. Further probe in the reasons behind in the area under orange was undertaken and the data have been presented in Table 3. Reasons encountered by the respondents that make them to put less area under orange were identified and classified into four heads viz. Reasons related to input supply, Technical aspects, information sources, labours and climatic condition, respectively.

Table 2: Distribution of the respondents according to their reasons decline in area under orange orchards.

S. No.	Category	Respondents (N=150)	
		Frequency	Percentage
1	Low	5	3.33
2	Moderate	44	29.33
3	High	101	67.34
	Total	150	100

Table 3: Reasons for decline in area under orange orchards.

S. No	Reasons for decline in orange area	Respondents (N=150)	
	Reasons related to input supply		
1.	1. Non-availability of improved seedling at proper time	50	33.33
	2. Non-availability of chemical fertilizer at proper time.	113	75.33
	3. Non-availability of insecticide at proper time.	61	40.66
	4. Non-availability of plant protection measures.	58	38.66
	5. Delayed transplanting because of no rains	89	59.33
	Reasons related to technical aspects		
2.	1. Lack of resistant varieties.	42	28.00
	2. Adulteration in seedling of improved varieties.	89	59.33
	3. Ineffectiveness of insecticides	79	52.66
	4. Load shedding of electricity	129	86.00
	5. Lack of storage facilities	42	28.00
	Reasons related to economic aspects		
3.	1. High cost of seedling	47	31.33
	2. High cost of insecticides and fertilizers.	115	76.66
	3. Lack of money at the time of insecticides and fertilizers.	76	50.66
	4. Low market price.	73	48.66
	5. Insufficient compensation for natural calamities by the Govt.	61	40.66
	6. Inadequate credit facilities.	55	36.66
	7. High cost of FYM	99	66.00
	Reasons related to information sources		
4	1. Lack of knowledge about the fertilizers doses	123	82.00
	2. Inadequate guidance from the dealers	118	78.66
	Reasons related to labours		
5	1. Lack of labours during transplanting of seedling and harvesting of orange	47	31.33
	2. High wages rates	102	68.00
	Reasons related to climatic condition		
6	1. Vagaries in monsoon	96	64.00
	2. Long dry spell	139	92.66
	3. High temperature	132	88.00
	4. Depletion of water table	146	97.33

1. **Reasons related to input supply:** Among the reasons related to input supply, non-availability of chemical fertilizer at proper time was one of the major reasons encountered by 75.33 per cent of the respondents. Followed by 59.33 per cent of the respondents who reported delayed transplanting because no rains and 40.66 per cent of the respondents who reported non-availability of insecticide at proper time, While 38.66 per cent of the respondents reported non-availability of plant protection measures and 33.33 per cent of respondents reported non-availability of improved seed at proper time.
2. **Reasons related to technical aspects:** Among the technical aspects load shedding of electricity was the major reason encountered by majority of the respondents (86.00%), followed by 59.33 per cent of the respondents who reported that adulteration in seedling of improved varieties was the major problem. As much as 52.66 per cent of the respondents had reported that ineffectiveness of insecticides and about equal per cent of the respondents (28.00%) were reported that lack of resistant varieties and lack of storage facilities.
3. **Reasons related to economic aspects:** Among the economical aspects high cost of insecticides and fertilizers was one of the major reasons encountered by the majority of the respondents (76.66%), followed by 66.00 per cent of the respondents who reported high cost of FYM and 51.33 per cent of the respondents reported non-supportive policies of government towards orange. As much as, 50.66 per cent of the respondents reported lack of money at the time of purchasing fertilizers and insecticides and 48.66 per cent of the respondents reported low prices in market, 36.66 per cent of the respondents reported inadequate credit facilities, 31.33 per cent of the respondents reported high cost of seedling.
4. **Reasons related to information sources:** Among the information sources, lack of knowledge about the fertilizers doses was one of the major reasons encountered by majority of the respondents (82.00%), followed by 78.66 per cent of the respondents who reported lack of contact with extension personnel and inadequate guidance from the dealers.
5. **Reasons related to labours:** Among the reasons related to labours high wages rates was one of the major reasons encountered by majority of the respondents 68.00 per cent, followed 31.33 per cent of respondents who stated lack of labours during transplanting of seedling and harvesting of orange as the major reasons.
6. **Reasons related to climatic conditions:** Among the climatic conditions, lowering water table was one of the major reasons encountered by majority of the respondents (97.33%), followed by 92.66 per cent of the respondents mentioning long dry spell, 88.00 per cent of the respondents told high temperature as major reasons and 64.00 per cent of the respondents reported vagaries in monsoon as a major reason.

Thus, it is revealed that the reasons like lowering of water table, high wages rates, lack of knowledge about fertilizers doses, high cost of insecticides and fertilizers, load shedding of electricity, non-availability of chemical fertilizer at proper time were the main reasons encountered by the orange growers that made them to reduce their area under orange orchards.

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