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Study on the profile of mandarin grower

Akshay Vithalkar, Vidyanand Manvar and Abhishek Hiwarale

Abstract
The present study was conducted on "Knowledge and adoption of mandarin production technology by the growers" was purposively conducted in Yavatmal district of Vidarbha region. The study was conduted in Digras, Babulgaon, Ner talukas. The sample constituted 120 mandarin growers from 12 villages. Ex-post facto research Design was used for present study. Data from the respondents were collected by personally interviewing with the help of structured and pretested interview schedule. Collected data were classified, tabulated and analysed by using statistical methods like frequency, percentage, mean, standard deviation, correlation coefficient. It was noticed that 55.00 percent of respondents belonged to middle age category. It was also observed that, 33.33 percent of the respondents were educated up to High school level category. It was reported that, less than, half of the respondents 44.17 percent possessed semi medium category of land holding. The findings also indicated that 83.33 percent possessed small size of orchard up to 2 ha. Maximum percentage of respondents 55.83 percent belonging to medium annual income category, 66.67 percent of the respondents belonged to medium extension contact category. It is revealed that 56.67 percent of the respondents had medium level of sources of information, Majority i.e. 68.33 percent of respondents were having medium level of risk orientation. More than half of the respondents 59.17 percent had belonging to medium social participation category; majority i.e. 65.83 percent of the respondents had medium level market orientation.

Keywords: Knowledge, adoption, production, technology, mandarin

Introduction
In India fruit cultivation is being practiced since long years. Among all fruit crops grown in India Citrus group has its own importance. Citrus is the world's leading fruit crop. In Citrus group Mandarin (Citrus reticulate) which is also known as orange belongs to family Rutaceae and origin China. The world-famous Mandarin orange locally known as 'Nagpur Santra' is grown in Vidarbha region of Maharashtra state. India ranks third in orange production followed by Mango and Banana. It occupies about 10 percent of total area under fruit, next to Mango and Banana. Mandarin occupies about 40 percent of total area under citrus cultivation in India. Mandarin oranges (Citrus reticulata) are a significant horticultural crop in Maharashtra, contributing to the region's agrarian economy and providing a source of livelihood for many growers. Despite their economic importance, the adoption of advanced production technologies among mandarin growers varies widely, influenced by factors such as accessibility to information, education levels, and socio-economic conditions. This research paper aims to investigate the level of knowledge and adoption of Mandarin production technologies among growers in Maharashtra. It explores the extent to which growers are aware of and implement recommended practices such as improved irrigation methods, pest management, soil health maintenance, and post-harvest handling techniques. Understanding these aspects is crucial for identifying gaps and formulating strategies to enhance productivity and sustainability in mandarin cultivation. By employing a mixed-methods approach, including surveys and interviews with mandarin growers, this study seeks to provide a comprehensive overview of current practices and the barriers to technology adoption. The findings will offer valuable insights for policymakers, agricultural extension services, and other stakeholders to support the effective dissemination and implementation of modern agricultural technologies in the region.

Materials and Methods
The present study was undertaken in the Vidarbha region of Maharashtra state. The study was conducted in Yavatmal district. Out of sixteen talukas of Yavatmal district, three talukas namely Digras, Babulgaon, Ner, were selected purposively as maximum area under mandarin

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cultivation. Four villages were selected randomly from each taluka. Thus, twelve villages from three talukas were selected for the study. From the selected village, ten (10) respondents from each villages were selected randomly. In this way, from 12 villages 120 farmers selected for the present study. An Ex-post-facto research design was followed for the study. Data was collected by personally interviewing the Mandarin growers. The collected data was analyzed, classified and tabulated. Statistical tools such as frequency, percentage, mean, standard deviation, and coefficient of correlation were used to interpret findings and draw conclusions.

Specific Objective
To study the profile of Mandarin growers.

Results and Discussion
The Profile of Mandarin growers
Distribution of Mandarin growers according to their Profile variables or characteristics

Table 1: Distribution of Mandarin growers according to their Profile variables or characteristics

Sr. No.	Characteristics	Frequency	Percentage
1	**Age**		
i	Young (Up to 27 years)	31	25.83
ii	Middle (28 years to 52 years)	66	55.00
iii	Old (53 years & above)	23	19.17
2	**Education**		
i	Illiterate	08	06.67
ii	Can read & write only	00	00.00
iii	Primary school level	25	20.83
iv	Middle school level	27	22.50
v	High school level	40	33.33
vi	College level	20	16.67
3	**Land Holding**		
i	Marginal (Up to 1.00 ha)	09	07.50
ii	Small (1.01 to 2.00 ha)	39	32.50
iii	Semi-medium (2.01 to 4.00 ha)	53	44.17
iv	Medium (4.01 to 10.00 ha)	13	10.83
v	Large (above 10.01 ha)	06	05.00
4	**Orchard size**		
i	Small (up to 2 ha)	100	83.33
ii	Medium (2.01 to 4 ha)	14	11.67
iii	Large (above 4.01 ha)	6	05.00
5	**Annual Income**		
i	Low (Up to Rs.240000)	32	26.67
ii	Medium (Rs.250000 to Rs.440000)	67	55.83
iii	High (above Rs.450000)	21	17.50
6	**Extension Contact**		
i	Low (up to 23)	18	15.00
ii	Medium (24 to 34)	80	66.67
iii	High (35 & above)	22	18.33
7	**Sources of Information**		
i	Low (up to 13)	28	23.33
ii	Medium (14 to 20)	68	56.67
iii	High (21 & above)	24	20.00
8	**Risk Orientation**		
i	Low (up to 21)	24	20.00
ii	Medium (22 to 26)	82	68.33
iii	High (27 & above)	14	11.67
9	**Social Participation**		
i	Low (up to 5)	27	22.50
ii	Medium (6 to 9)	71	59.17
iii	High (10 & above)	22	18.33
10	**Market Orientation**		
i	Low (up to 13)	26	21.67
ii	Medium (14 to 21)	79	65.83
iii	High (22 & above)	15	12.50

The data pertaining to Table 1 depicts Profile variables or characteristics of mandarin growers (respondents) as following.

1. Age
The age wise distribution of the respondents in Table 1 shows that maximum percentage of the respondents 55.00 percent were found in the middle age category, followed by 25.83 percent appeared in young age category and 19.17 percent of respondents were in the old age category. Similar results were observed by Mule (2012) [9].

2. Education
The education wise distribution of the respondents in Table 1 shows that 33.33 percent respondents were educated up to higher school level. While 22.50 percent of the respondents were educated up to middle school level. Primary school level education was availed by 20.83 percent of the respondents followed by 16.67 percent of the respondents was educated up to collage level. Whereas, 6.67 percent of the respondents were Illiterate and No respondents were observed can read and write only category. Similar findings were reported by Dhole (2006) [4].

3. Land Holding
The data furnished in Table 1 indicated that 44.17 percent of the respondents possessed semi medium category of land holding, followed by 32.50 percent were belonged to small category, 10.83 percent were belonged to medium category, 07.50 percent were from marginal and 05.00 percent of respondents belonged to large category of land holding. The findings of the present study are similar with Kadu (2016) [6], Prashanth et al. (2018) [10].

4. Orchard size
It shows from Table 1 that maximum percentage of respondents i.e. 83.33 percent had small size of orchard whereas, 11.67 percent respondents were having medium size of orchard followed by only 05.00 percent of the respondents were possessed large size of orchard under cultivation of mandarin crop. Similar result was found by Kadu (2016) [6].

5. Annual income
It is observed from Table 1 that 55.83 percent of the respondents were belonged to medium category of annual income followed by 26.67 percent of the respondents were from low annual income, whereas, 17.50 percent had high annual income. Thus, it was found from the result that majority of the respondents were having medium annual income. This finding is similar to the finding of Wankhede (2016) [13] and Kadu (2016) [6].

6. Extension contact
It was depicted from Table 1 that 66.67 percent of the respondents belonged to medium extension contact category, while 18.33 percent and 15.00 percent of the respondents belonged to high and low extension contact category, respectively. The findings favours the findings of Bankar (2017) [3].

7. Sources of information
It was observed from Table 1 that 56.67 percent mandarin growers were using medium level of sources of information, while 23.33 percent and 20.00 percent of them uses low and high level of sources of information, respectively. The findings of the study are similar to the findings of Atar (2012) [1] and Kadu (2016) [6] Gedam and Padaria (2014) [5].

8. Risk orientation
From the above Table 1, it was observed that majority 68.33 percent of respondents were having medium level of risk orientation, while 20.00 percent who were under low category of risk orientation whereas, 11.67 percent respondents were under high category. The findings are similar to the findings of Lad (2013) [7] and Meena (2014) [8].

9. Social participation
It is elucidated from Table 1 that more than half of the respondents 59.17 percent had medium social participation, while 22.50 percent of the respondent had low social participation and 18.33 percent of them had high social participation. This finding is similar to finding of Waghmare (2010) [12] and Bansode (2011) [2].

10. Market orientation
It is depicted from Table 1 that, majority 65.83 percent of the mandarin growers had medium market orientation followed by 21.67 percent in low market orientation category followed by 12.50 percent had high market orientation of the mandarin growers. The results in line with by Sawale (2011) [11] and Atar (2012) [1].

Conclusion
It was noticed that 55.00 percent of respondents belonged to middle age category. It was also observed that, 33.33 percent of the respondents were educated up to High school level category. It was reported that, less than, half of the respondents 44.17 percent possessed semi medium category of land holding. The findings also indicated that 83.33 percent possessed small size of orchard up to 2 ha. Maximum percentage of respondents 55.83 percent belonging to medium annual income category, 66.67 percent of the respondents belonged to medium extension contact category. It is revealed that 56.67 percent of the respondents had medium level of sources of information, Majority i.e. 68.33 percent of respondents were having medium level of risk orientation. More than half of the respondents 59.17 percent had belonging to medium social participation category; majority i.e. 65.83 percent of the respondents had medium level market orientation.

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