



Constraints and Improvements Suggestions Proposed in Adopting Recommended Cultivation Practices by Mandarin Growers

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The present study was conducted in Amravati district of Maharashtra. It was purposively carried out in two talukas i.e. Achalpur and Anjangaon Surji on the basis of maximum area under mandarin. From Achalpur and Anjangaon Surji talukas, 12 villages were selected purposively having area under mandarin. Again from each selected village, 10 mandarin growers were selected purposively having bearing orchard for the present study constituting a sample size of 120 respondents. An exploratory method of research design was used. The objective of the study was to identify the constraints faced by mandarin growers and obtain suggestions. Findings revealed that majority of respondents (93.33%) faced the problem of unavailability of proper information

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about chemicals to control pests and diseases followed by the those (91.66%) who are facing the problem of fruit drop in recent years along with some other constraints. While in case of suggestions, guidance by concerned department to farmers at different levels by organizing field visits gained highest frequency followed by availability of inputs at affordable price and arrangement of training programmes for the areas found with higher training need respectively.

Keywords: Mandarin; fruit drop; suggestions; training programs.

1. INTRODUCTION

Citrus production and trade have continuously increased in recent decades. Oranges account for more than half of the global citrus output and represent over 40 percent of world citrus exports. About one-third of the citrus fruit produced worldwide is used for processing. In India, citrus is grown in 0.62 million ha area with the total production of 4.79 million tones (NHB). Nagpur mandarin is one of the best mandarins in the world. Selection of desired quality fruit as per specific market demand and careful post-harvest handling to retain most of natural qualities and freshness plays a key role in expanding exports of Nagpur mandarin. It can be grown in tropical and subtropical areas. One advantage of mandarin cultivation is that they can be successfully grown on plains as well as over the slopes of hills [1,2]. Mandarins grow successfully in all frost free tropical and sub-tropical regions upto 1,500m above mean sea level. An annual rainfall of 100-120 cm and temperature ranging from 10-35° C is suitable for cultivation of the crop. Mandarins can be grown in a wide variety of soils but medium or light loamy soils with slightly heavy sub-soil, well-drained with pH of 6.0-8.0 are ideal for cultivation. Orange production in India takes 3rd position after mango and banana while it has a stake of 1.72% in mandarin export market [3,4]. Mandarin, an important cash fruit crop is widely grown in Vidarbha region. Amravati is maximum mandarin growing district occupying 70589.40 ha area. Some study findings have indicated that non-availability of root stock, high cost of root stock and fertilizers, uncertainty of electricity supply and difficulties in getting loan were the major constraints faced by the farmers which are related to the production of mandarin [5-8]. Therefore, considering these facts the present investigation was carried out to identify the constraints faced by mandarin growers and obtain suggestions.

2. METHODOLOGY

The present study was purposively carried out in two talukas i.e. Achalpur and Anjangaon Surji

purposively on the basis of maximum area under mandarin. From Achalpur and Anjangaon Surji talukas, 12 villages were selected randomly having area under mandarin. Again from each selected village, 10 mandarin growers were selected purposively for the present study constituting a sample size of 120 respondents. An exploratory method of research design was used.

In this study, 'constraints' is operationally defined as the problem encountered or perceived by the respondents in cultivation of mandarin. Efforts were made to identify the constraints faced by the respondents in cultivation of mandarin. The mandarin growers were asked about various difficulties they were facing, regarding the various aspects connected with cultivation practices of mandarin such as input supply, technical, financial, labour, storage and marketing constraints. The difficulties reported by the growers were listed out and frequencies and percentage of each was worked out.

The suggestion refers to opinion about constraints which can be used as solution to overcome or to minimize them. In order to develop a foolproof extension strategy, it is essential to seek the opinions of the respondents; those are directly involved in mandarin cultivation. The constraints faced by them may be sometimes imaginary and sometimes due to lack of coordination at different levels. Hence in this study, all the farmers were requested to offer their valuable suggestions for eliminating the constraints.

The respondents were requested to express their suggestion to overcome the constraints. The frequency for each suggestion was calculated and converted into percentage. Then ranks were assigned on the basis of frequency of respondents.

3. RESULTS AND DISCUSSION

It was observed from Table 1 that majority of respondents (93.33%) faced the problem of unavailability of proper information about

Table 1. Distribution of the respondents according to constraints faced in adoption of recommended technologies of mandarin

Sr. No.	Constraints	Frequency (n=120)	Percentage
1.	Unavailability of proper information about chemicals to control pests & diseases	112	93.33
2.	High cost of inputs (insecticides & fertilizers)	94	78.33
3.	Fruit drop	110	91.66
4.	Reduction in market price of mandarin due to post covid effect	85	70.83
5.	Yield reduction due to climate change	74	61.67
6.	Lack of knowledge of improved cultivation practices	90	75.00
7.	No proper guidance from concerned authority	95	79.16
8.	Lack of storage & processing facilities	75	62.50

Table 2. Suggestions given by respondents

Sr. No.	Suggestions	Frequency	Percentage	Rank
1	Concerned department should guide farmers at different levels by organizing field visits	99	82.50	I
2	Inputs should be made available in affordable prices	90	75.00	II
3	Extension functionaries should arrange training programmes for the areas found with higher training need	75	62.50	III

chemicals to control pests & diseases. A good number of respondents (91.66%) are facing the problem of fruit drop in recent years. It is observed that 79.16 per cent respondents are not getting proper guidance from concerned authority followed by 78.33 per cent respondents who are facing problem due to high cost of inputs like fungicides to control various diseases. Seventy-five (75.00) per cent of respondents had lack of knowledge of improved cultivation practices, 70.83 per cent of respondents are getting less annual income owing to reduction in market price of mandarin due to post covid effect. However 62.50 per cent of respondents are facing problem due to lack of storage and processing facilities.

3.1 Suggestions Given by Respondents to Overcome the Constraints

It was noticed from Table 2 that need for guidance by concerned departments at different levels through organizing field visits was suggested by most of the respondents (82.50%) followed by availability of inputs in reasonable prices for farmers (75.00%) and arrangement of training programs for control of diseases and pest management in mandarin specially fruit drop (62.50%) respectively.

4. SUMMARY AND CONCLUSIONS

From the above study it can be concluded that unavailability of proper information about chemicals to control pests & disease and fruit drop are top two constraints faced by mandarin growers in that particular area of research while guidance to farmers by concerned department through field visits, provision of inputs like pesticides at a reasonable price and organizations of training programs for control of fruit drop along with other diseases and pests management were suggested by respondents.

5. IMPLICATIONS

- a) As per results obtained from this study fruit drop is a major concern in reducing yield of mandarin. So training programs regarding measures to control fruit drop can be organized by concerned authority.
- b) While studying the constraints, majority of the respondents reported that they are unable to purchase pesticides due to high cost and low subsidy from government. Hence necessary chemicals should be provided on subsidized rates by concerned department.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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