



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; 11(12): 4498-4500
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www.thepharmajournal.com
Received: 08-10-2022
Accepted: 10-11-2022

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Socio-economic characteristics and cropping pattern of *Kharif* and *rabi* tomato growers in Latur district

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Abstract

About 96 tomato growers were selected from eight villages from the list was stratified into two groups i.e. *kharif* 48 and *rabi* 48 of Latur district of Maharashtra for comparative study for the year of 2012-2013. In analytical techniques, tabular analysis was used. In case of socio-economic characteristics of tomato growers, it was observed that the average age of the *kharif* tomato grower was higher than the *rabi* tomato growers. In case of average family size of the *rabi* tomato grower was found to be slightly higher as 5.82 persons than that of *kharif* grower 5.57 persons. Also educational level it was slightly higher as 2.84 score in *rabi* tomato grower than that of *kharif* tomato grower 2.52 score. It was observed that in *kharif* and *rabi* tomato farmers the average of occupation level 1.04, 1.09 score respectively. It was observed that investment on irrigation structure was higher in *rabi* tomato grower Rs. 274358.26 as compared to *kharif* tomato grower Rs. 241806.34. In case of cropping pattern, the gross cropped area was 4.58 hectares on *kharif* tomato growers where as the *rabi* tomato growers was 5.00 hectares. As far as cropping intensity is concerned, it was observed that the highest cropping intensity was 171.23 percent on *rabi* tomato grower followed by that of 169.00 percent on *kharif* tomato grower.

Keywords: Tomato, socio-economic characteristics, cropping pattern

Introduction

Tomato (*Lycopersicon esculentum*) is an important vegetable crop in India. It is also called 'love apple' is an herbaceous plant belonging to the genus *Lycopersicon* under *Solanaceae* or Nightshade family. Tomato is the second most important vegetable crop next to potato but it tops the list of canned vegetables. Tomato is native to South America. It is one of the most important "protective foods" because of its special nutritive value. The major tomato producing states are Bihar, Karnataka, Uttar Pradesh, Orissa, Andhra Pradesh, Maharashtra, Madhya Pradesh and West Bengal. It is one of the most important vegetable crops cultivated for its fleshy fruits. It is considered as important and dietary vegetable crop. It is protective supplementary food. As it is a short duration crop and gives high yield, it is important from economic point of view and hence area under its cultivation is increasing day by day. The tomatoes are broadly classified in four groups on the basis of the period of their harvesting. Immature green stage, mature green stage, pink or half ripe and red or over ripe stage. It is utilized for fresh consumption in ketchups or sauces, in salads or cooked vegetables.

Tomatoes are directly used as raw vegetables in sandwiches, salad etc. Several processed items like paste, puree, syrup, juice, ketchup, drinks, whole peeled tomato etc. are prepared on large scale. It is used as appetizer and its soup for patients suffering from constipation. Green tomatoes are also used for pickles and preserves. It has many other uses, tomato seeds contain 24 percent oil used as salad oil and in the manufacture of margarines. Tomato is rich source of vitamins A, C, potassium, minerals and fibres and adds variety of colours and preserves. Tomato is also rich in medicinal value. The pulp and juice are digestible, mild aperients, a promotes of gastric secretion and blood purifier.

In the year 2012-13 area of tomato in Maharashtra was 50 thousand ha with production of 1050 thousand million tonnes and with productivity of 21 metric tonnes/ha. The crop is mostly grown in Marathwada region. In Latur district total area under tomato in the year 2012-13 is 778.58 ha with production of 16.39 metric ton with the productivity of 21.06 metric ton/ha (Source: District Agriculture Office, Latur). The commonly grown varieties of tomato in survey area was in *kharif* season US-440, Laxmi-5005 and in *rabi* season Alankar.

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Materials and Methods

Multistage sampling design will be adopted in selection of district, tehsil, villages and tomato growers. At first stage, the Latur district will be purposively selected for study on the basis of highest area under tomato crop. In second stage, Chakur and AUSA tehsil will be selected on the basis of higher area under tomato growers. In third stage, the list of villages growing tomato in Chakur and AUSA tehsil was obtained from Tehsil offices. In fourth stage, eight villages from tehsil were selected randomly. The selected villages were namely Wadwal, Latur road, Mohanal, Kadmulu in Chakur tehsil and Bheta, Borgaon, Sirsal, Killari in AUSA tehsil. From each selected village twelve tomato growers will be selected in such a way that six tomato growers from each of the two seasons on the basis of higher area under tomato growers. The list was stratified into two groups i.e. *kharif* 48 and *rabi* 48. Thus, from 8 villages, 96 growers will be selected. In analytical techniques, that is to study the socio-economic characteristics of *kharif* and *rabi* tomato growers will be achieved by tabular analysis.

Analysis and Interpretation

Results with respect to socio-economic characteristics and cropping pattern were obtained and are presented as follows.

Socio-economic characteristics of *kharif* and *rabi* tomato grower

Absolute mean with respect to socio-economic characteristics of tomato growers were studied and presented in Table 1. In

result revealed that to average age of the *kharif* tomato grower was higher as 46.23 years than the *rabi* tomato grower was 41.34. As far as average family size of the *rabi* tomato grower was found to be slight higher as 5.82 persons than that of *kharif* grower 5.57 persons. Also educational level it was slightly higher as 2.84 score in *rabi* tomato grower than that of *kharif* tomato grower 2.52 score. It was observed that in *kharif* and *rabi* tomato farmers the average of occupation level 1.04, 1.09 score, respectively. It was observed that in *rabi* tomato farmers possessed higher size of land holding 2.93 hectares than the *kharif* tomato farmers who possessed 2.77 hectares of land holding. It was observed that in *kharif* and *rabi* tomato grower the average of milch animal 1.32 and 1.41 number, respectively. It was observed that the average of bullock pair in *kharif* 0.85 number and in *rabi* 0.91 number. It was observed that in *kharif* and *rabi* tomato grower the average of investment on milch animal as Rs. 34876.54 and Rs. 37452.87, respectively. Similarly, the investment on bullock pair in *kharif* and *rabi* tomato grower the average of Rs. 47645.87 and Rs. 54765.48, respectively. From the above table it was concluded that investment on irrigation structure was higher in *rabi* tomato grower Rs. 274358.26 as compared to *kharif* tomato grower Rs. 241806.34 because, during *kharif* season there was no use of irrigation for tomato crop. This crop is grown on rainy season and with protective irrigation but in *rabi* season there was number of irrigations required for *rabi* tomato that's why investment on irrigation structure on *rabi* tomato was greater than *kharif* tomato.

Table 1: Mean values of socio-economic characteristics of selected tomato growers

	Particular	<i>Kharif</i> tomato grower	<i>Rabi</i> tomato grower
1.	Age (years)	46.23	41.34
2.	Family size (No.)	5.57	5.82
3.	Educational level in 5 quantum score (Illiterate/Primary/ High school/ Higher secondary/ College level)	2.52	2.84
4.	Occupation level in 3 quantum score (Agriculture/ Industry/Service)	1.04	1.09
5.	Land Holding (ha)	2.77	2.93
6.	Milch animal (No.)	1.32	1.41
7.	Bullock pair (No.)	0.85	0.91
8.	Investment on milch animal (Rs.)	34876.54	37452.87
9.	Investment on bullock pair (Rs.)	47645.87	54765.48
10.	Investment on Irrigation structure (Rs.)	241806.34	274358.26

Cropping pattern of tomato grower

Cropping pattern of tomato was calculated and presented in Table 2. The result revealed that the gross cropped area was 4.58 hectares on *kharif* tomato growers where as the *rabi* tomato growers was 5.00 hectares. It was observed that the proportion of area under tomato in *kharif* tomato grower 6.11 percent in *kharif* season and in *rabi* tomato grower 6.80 percent in *rabi* season. The proportionate area in *kharif* season under soybean was highest as 24.60 percent in *rabi* tomato grower and 23.80 percent in *kharif* tomato grower. Similarly, the proportionate area under tur was 11.60 percent in *rabi* tomato grower and 11.35 percent in *kharif* tomato grower. The proportionate area in *rabi* season under gram was highest as 8.30 percent in *kharif* tomato grower and 8.20 percent in *rabi* tomato grower. Similarly, the proportionate area under wheat was 6.77 percent in *kharif* tomato grower and 6.60

percent in *rabi* tomato grower. In next order, cauliflower, maize, *kharif* jawar, mung, udid, cabbage, *rabi* jawar, tomato, wheat, safflower, groundnut crops are also grown in study area. Net sown area of *kharif* and *rabi* tomato grower was 2.71 and 2.92 hectares, respectively. Double cropped area of *kharif* and *rabi* tomato grower was 1.87 and 2.08 hectares, respectively. As far as cropping intensity is concerned, it was observed that the highest cropping intensity was 171.23 percent on *rabi* tomato grower followed by that of 169.00 percent on *kharif* tomato grower. Because, the investment on irrigation structure in *rabi* tomato grower was more as compared to *kharif* tomato grower that's why *rabi* tomato grower efficiently manage the double cropped area than the *kharif* tomato grower. Due to this reason cropping intensity was more as compared to *kharif* season.

Table 2: Cropping pattern of tomato grower

	Particulars	Kharif tomato grower		Rabi tomato grower	
		Area	Percent	Area	Percent
	Kharif				
1	Tomato	0.28	6.11	0.22	4.40
2	Soyabean	1.09	23.80	1.23	24.60
3	Tur	0.52	11.35	0.58	11.60
4	Cauliflower	0.14	3.06	0.12	2.40
5	Maize	0.19	4.15	0.22	4.40
6	K. jawar	0.40	8.73	0.44	8.80
7	Mung	0.05	1.09	0.06	1.20
8	Udid	0.04	0.87	0.05	1.00
	Sub Total	2.71	59.17	2.92	58.40
	Rabi				
9	Gram	0.38	8.30	0.41	8.20
10	Cauliflower	0.12	2.62	0.10	2.00
11	Cabbage	0.09	1.97	0.08	1.60
12	R. jawar	0.30	6.55	0.29	5.80
13	Tomato	0.21	4.59	0.34	6.80
14	Wheat	0.31	6.77	0.33	6.60
15	Safflower	0.18	3.93	0.21	4.20
	Sub Total	1.59	34.72	1.76	35.20
	Summer				
16	Vegetable	0.06	1.31	0.08	1.60
17	Groundnut	0.22	4.80	0.24	4.80
	Sub Total	0.28	6.11	0.32	6.40
18	Gross cropped area	4.58	100.00	5.00	100.00
19	Net sown area	2.71		2.92	
20	Double cropped area	1.87		2.08	
21	Cropping intensity (%)	169.00		171.23	

Conclusions

The average age of the *kharif* tomato grower was higher as 46.23 years than the *rabi* tomato growers was 41.34. As far as average family size of the *rabi* tomato grower was found to be slight higher as 5.82 persons than that of *kharif* grower 5.57 persons. It was observed that in *kharif* and *rabi* tomato farmers the average of occupation level 1.04, 1.09 score respectively. The average area under tomato in *kharif* tomato grower 6.11 percent in *kharif* season and in *rabi* tomato grower 6.80 percent in *rabi* season. The gross cropped area was 4.58 hectares on *kharif* tomato growers where as the *rabi* tomato growers was 5.00 hectares and the highest cropping intensity was 171.23 percent on *rabi* tomato grower followed by that of 169.00 percent on *kharif* tomato grower.

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