

DOUBLING THE FARMER INCOME THROUGH GUAVA (*Psidium guava*) CULTIVATION

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Abstract: Guava fruit is commercially grown throughout India with production of guava 2.59 million tons and an area coverage of 0.25 million hectares. In Rajasthan, guava mainly grown in Sawai Madhopur, Dausa, Tonk, Dholpur and Bundi district. Among the different districts of Rajasthan Sawai madhopur district is main grower of guava having 5000 ha area. The present study was undertaken to find out the role of guava orchard in doubling of farmer income. The farmer have initial average net income Rs. 34100. Economic analysis of cost of cultivation and net income revealed that during first year net income was Rs -46800(in 2010-11) but it was gradually increased in subsequent year reaches to Rs. 220560 (in 2017-18) which six time higher than net income from agronomic crops. If average was calculated from net income (Rs. 511670) from guava orchard during last eight years it showed 1.83 time net income per year from orchard only as compared to agronomic crops in year. The total economic calculated on the basis of net income (Rs. 639500) from guava orchard and intercrops grown in orchard which showed that 2.34 time net income as compared to sole agronomic crop. This study was concluded that establishment of guava orchards can do farmer income double per unit area.

Keywords: Guava, Double income, Gola barfkhan.

Introduction

Guava fruit is commercially grown throughout India with production of guava 2.59 million tons and an area coverage of 0.25 million hectares in 2015-16. In Rajasthan, major guava producing districts includes Sawai Madhopur, Dausa, Tonk, Dholpur and Bundi district. Sawai madhopur district is main guava grower with an area 5000 ha (Singh *et al.*, 2016). Among the different block in district Sawai Madhopur block has 4000 ha area. Guava occupies very important role in building of farmer economy. The guava cultivation can double the farmer income per unit area. In this context, the present study was conducted to find out role of guava orchard in doubling of farmer income.

Methodology

The present study was conducted in village Dubbi Banas, tehsil & district Sawai Madhopur. Initially data was collected on cost of cultivation and income in 2009-10 from different

agronomic crop grown by farmer. The data during 2010-11 to 2017-18 was collected on cost of cultivation and income from farmer field have intercrop with agronomic crops and guava orchard of variety Gola barfkhan on 0.5 ha area. The cost of cultivation for agronomic crops includes seed, fertilizer, labour, land preparation, pesticide, threshing, electricity charge for irrigation and miscellaneous charge include transportation, labour charge and tax in mandi etc. While data on cost cultivation for guava include two parts viz., onetime cost and recurring costs. The onetime cost include planting material, digging of pits, planting and farm fencing while recurring cost include the expenditure on manuring (farm yard manure and fertilizer), pesticide, labour charge for irrigation and intercultural operation, irrigation, plant protection, pruning and cutting etc.

Results and discussion

Table: 1 Initial income of farmers from 0.5 ha land during 2009-10

Season	Crop	Cost of cultivation Rs	Production Q	Rate Rs	Income Rs	Net income Rs.
Kharif	Sesame	8100	4.00	5000	20000	11900
Rabi	Mustard	12600	10.00	3500	35000	22400
					Total	34100

Table 2: The cost of cultivation* of different agronomic crop in 0.5 ha land

S.no.	Component of cost	Sesame	Mustard	Wheat	Green gram	Chick pea
1	Seed	200	200	900	500	1600
2	Manure	1000	1000	1000	1000	1000
3	Fertilizer	100	500	470	120	300
4	Labour	4500	6000	6000	4800	4500
5	Land preparation	800	1200	1200	800	1200
6	Pesticide	500	500	500	250	300
7	Threshing	0	800	1500	500	750
8	Electricity charge	0	1200	2000	0	1200
9	Miscellaneous	1000	1200	1500	1200	1500
	Total	8100	12600	15070	9170	12350

*cost of cultivation was calculated on the basis of actual data collected from famer when produce was sold on farm to contractor.

Table 3 Cost of cultivation of 0.5 ha area guava orchards from 2010-11 to 2017-18

S. No.	Component of cost	Cost of cultivation guava orchard Rs							
		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
1	Planting material	10000	0	0	0	0	0	0	0
2	Digging of pit	3600	0	0	0	0	0	0	0
3	Planting	1800	0	0	0	0	0	0	0
4	Farm Fencing	30000	0	0	0	0	0	0	0
5	Farm Yard Manure	10800	10800	10800	15750	18000	18000	21600	21600
6	Fertilizer	630	630	1260	1260	1620	2340	1440	1440
7	Pesticide	500	600	800	800	1000	1000	1200	1200
8	Labour	7800	8520	10000	11120	12200	12600	14120	15600
9	Electricity charge	4000	4000	4300	4500	4500	4500	4500	4600
10	Miscellaneous	3000	3000	3500	4000	4000	4000	4500	5000
	Total	72130	27550	30660	37430	41320	42440	47360	49440

Table 4 Economic analysis of guava cultivation on the basis of cost and income in 0.5 ha area

Year	*Cost of cultivation in guava Rs	*Income from guava Rs	Intercrop	Cost of cultivation Rs	Income from intercrop Rs	Net income Rs
2010-11	72130	0	Sesame	8100	18500	-46800
			Wheat	15070	30000	
2011-12	27550	0	Sesame	8100	20500	10500
			Chickpea	12350	38000	
2012-13	30660	40000	Green gram	9170	13500	41320
			Chickpea	12350	40000	
2013-14	37430	75000	Greengram	9170	17500	62540
			Chickpea	8360	25000	
2014-15	41320	105000	Green gram	5500	13000	71180
2015-16	42440	135000		0	0	92560
2016-17	47360	235000		0	0	187640
2017-18	49440	270000		0	0	220560
Total	348330	860000		88170	216000	639500

* It does not include harvesting and transportation cost because farmer sold their orchards to contractor in whole sale on farm and income received by farmer from contractor on farm by whole sale.

1. Net income increased from 0.5 ha area guava orchards on 8 year = $220560/34100=6.47$

2. Net Income from 0.5 ha area guava orchard = $860000 - 348330 = 511660 / 8 = 63958 / 34100 = 1.83$

3. Net income from 0.5 guava orchard and intercrop = $(860000 + 216000) - (348330 + 88170) = 639500 / 8 = 79937 / 34100 = 2.34$

Result in table 1 data revealed that the farmers have initial average net income Rs. 34100 during 2009-10 from agronomic crops like sesame in Kharif and mustard in Rabi on 0.5 ha area. In the table 2 cost of cultivation given for different crop grown as intercrop in initial stage of orchard i.e Rs. 8100 for sesame, 15070 for wheat, 12350 for chick pea and 9170 for green gram in 0.5 ha area as per information collected from farmers. Subsequently in table 3 data on cost of cultivation for guava was given from establishment of orchard to next eight year (2010-11 to 2017-18), The cost of cultivation for guava orchard was Rs. 72130 during establishment year in 2010-11 and cost of cultivation ranged from Rs. 27550 (2011-11) to Rs. 49440 (2017-18) in eighth year, Similar findings were also reported by Umesh *et al.* (2005). Economic analysis of cost of cultivation and net income in table 4 revealed that during first year was -46800 (in 2010-11) but it was increased in subsequent year it reaches to Rs. 220560 (in 2017-18) at eight year age which was 6.47 time higher net income than net income from sole agronomic crops. If average was calculated from net income (Rs.511670) from guava orchard during last eight years it showed 1.83 time net income from orchard as compared to agronomic crops in year. The total economic calculated on the basis of net income received from intercrops and orchards (Rs. 639500) which showed that 2.34 time net income as compared to sole agronomic crop. This was concluded that establishment of guava orchard can do farmer income double. These results got support from findings reported by Dahiya (2002), Mishra *et al.* (2000), Naphade and Tingre (2008) and Sain *et al.*, (2013).

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