Study of knowledge and adoption of recommended jaggary production technology

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ABSTRACT

The study indicated that 53.33 per cent of respondents were of old age group, 61.11 per cent of respondents had completed their education up to Secondary and Higher Secondary. All the respondents having agriculture as a main occupation. In addition to agriculture, 81.11 per cent of respondents were enjoying dairy as a subsidiary occupation. Majority of respondents were from joint family having medium family size (42.22 per cent). All respondents were from irrigated farming category , having river water as the major source for irrigation. Ninety three per cent of respondents were having jaggary unit as own proprietary to that of 6.67 per cent had taken it on rent. All the respondents had a knowledge about identification of cane maturity according to physical appearance and crop period, harvesting, post harvest technologies except pH of cane juice (74.44 per cent) and use of pH meter (77.78 per cent) juice temperature and its measurement with thermometer (74.44 per cent). The study revealed that all the respondents adopted identification of cane maturity according to physical appearance and crop period, harvesting. All the respondents adopted cane crushing within 6-12 hrs. All the respondents partially adopted use of phosphoric acid (77.78 per cent). All respondents' malpractices in market particularly substitute block system. Fluctuations in market rates, irregular electricity supply, unavailability of credit at low interest rates for starting the season, unavailability of skilled labours and knowledge about export system of jaggary were the major constraints faced by them.

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INTRODUCTION

Production of jaggary from sugarcane is major cottage industry in India, Nearly Uttar Pradesh is leading state in jaggary production and contributes about 63 per cent of total production in India. In Maharashtra, only 11 per cent of total sugarcane produce is used for jaggary production. Kolhapur region is famous for its quality production and nearly 27 per cent of its total sugarcane produce is used for jaggary production. Jaggary is not only important because it adds sweetness in daily diet but also for its nutrient content and medicinal values. Jaggary is rich source of calcium, iron, copper, proteins, fats and several vitamins. Nearly 29 countries are importer of jaggary which includes USA, England, Netherlands, Spain etc. So, it is having great scope in export and ultimately earning foreign currency. Considering importance, our university had made efforts to disseminate improved jaggary production technology in this area through research and extension (RSJRS, Kolhapur). With this view, this study was conducted with specific objectives : to study the socio-economic characteristics of the respondents, to study the extent of knowledge and adoption of respondents regarding recommended jaggary production technology and to study the onstraints faced by the respondents in adoption of recommended jaggary production technology.

Key words : Knowledge, Adoption, Jaggery, Production technology

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METHODOLOGY

The present study was conducted in Karveer, Radhanagari and Bhudargad Tahsils of Kolhapur district purposively. From these Tahsils, 16 villages *viz;* Waghapur, Gangapur, Madilage(Bk.), Vhangoti, Arjunwada, Titave, Turambe, Talashi, Kerli, Kerle, Vadnage, Padali, Nagdevwadi, Chitali, Shinganapur and Hanmantwadi were selected randomly. From each village, not more than 10 respondents were selected. In all 90 respondents were finally selected for this study.

OBSERVATION AND ANALYSIS

The results obtained from the present investigation are presented below:

Socio-economic characteristics:

The information regarding personal and socio-economic characteristics are given in Table 1. It indicates that 53.33 per cent of respondents were of old age group, 61.11 per cent of respondents had completed their education up to Secondary and Higher Secondary. All the respondents were having agriculture as a main occupation. In addition to agriculture, 81.11 per cent of respondents were enjoying dairy as a subsidiary occupation. Majority of respondents were from joint family having medium family size (42.22 per cent). All respondents were from irrigated farming category and having river water as major source for irrigation. Ninety three per cent of respondents were having jaggary unit as own proprietary to that of 6.67 per cent had taken it on rent.

Table 1 : Distribution of respondents to their socio-economic characteristics

Sr. No.	Characteristics	No. of respondents (n=90)	Percentage
1.	Age		
	Young (up to 25 years)	02	02.22
	Middle (26-45 years)	40	44.45
	Old (46 and above)	48	53.33
		90	100.00
2.	Education		
	Illitetrate	01	1.11
	Primary	13	14.44
	Secondary and Higher secondary	55	61.11
	Graduation	19	21.11
	Other	02	2.22
		90	100.00
3.	Type of family		
	Joint	64	71.11
	Nuclear	26	28.89
		90	100.00
4.	Family size		
	Small (up to 5 members)	19	21.11
	Medium(6-10 members)	38	42.22
	Large (11 and above)	33	36.67
		90	100.00

Table 1 : Contd……

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4.	Family size		
	Small (up to 5 members)	19	21.11
	Medium (6-10 members)	38	42.22
	Large (11 and above)	33	36.67
		90	100.00
5.	Type of farming		
	Rain fed	-	-
	Irrigated	90	100.00
	Barren	-	-
	Type of soil		
	Light	33	36.67
	Medium	38	42.22
	Deep	63	70.00
	Land holding (ha)		
	Less than 1	20	22.22
	1.01 to 2.00	30	33.33
	Above 2.01	40	44.45
6.	Occupation		
	Main		
	Agriculture	90	100.00
	Service	-	-
		90	100.00
	Subsidiary		
	Dairy	73	81.11
	Service	01	02.22
	Other(Jaggary production)	84	93.33
7.	Sources of irrigation		
	Well	33	36.67
	Canal	-	-
	River	83	92.22
	Borewell	16	17.78
8.	Annual income (Rs.)		
	Less than 50,000/-	-	-
	50,001 - 1.50 lac	44	48.89
	Above - 1.50. lac	46	51.11
		90	100.00
9.	Experience in jaggary		
	making	02	02.22
	less than 3 years	07	07.78
	3-5 years	81	90.00
	More than 5 years		
		90	100.00
10.	Nature of ownership		
	Own proprietary	84	93.33
	Rental	06	06.67
		90	100.00

Table 2: Knowledge and adoption of recommended jaggary production technology by the farmers

Sr.No.	Jaggery production technology	Knowledge (n=90)		Adoption(n=90)		
		Complete	No.	Complete	Partial	No.
1.	Identification of cane maturity					
	Scientific method					
	Use of Brix Hydrometer	84 (93.33)	06 (06.67)	-	-	90(100.00)
	Use of Hand Refractometer	66(73.33)	24 (26.67)	-	-	90(100.00)
	According to physical appearance	90 (100.00)	-	90(100.00)	-	-
	Crop period (Months)	90 (100.00)	-	90 (100.00)	-	-
2.	Harvesting					
	Use of sharp sickle/ koyati	90(100.00)	-	90(100.00)	-	-
	Removal of 2-3 immature internodes	90 (100.00)	-	90(100.00)	-	-
3.	Juice extraction					
	Cane crushing within 6-12 hrs.	90 (100.00)	-	90 (100.00)	-	-
	Use of crushers					
	Iron	90 (100.00)	-	88 (98.89)	-	02(02.22)
	Three roller stainless steel	90 (100.00)	-	02(02.22)	-	88 (98.89)
4.	Jaggary preparation					
	pH of cane juice- 5-5.5	67 (74.44)	23(25.56)	-	-	90
	Use of pH meter	70 (77.78)	20 (22.22)	04 (04.44)	-	(100.00)
	Use of mucilage(Vegetable flocculants)					86 (95.56)
	Bhendi 2 kg/1000 lit. OR	90 (100.00)	-	90 (100.00)	-	
	Bhendi powder 1.6 kg/1000 lit.	90 (100.00)	-	90 (100.00)	-	-
	Heavy scum (*Dhormali*) appears in 27-30 min.	90 (100.00)	-	90 (100.00)	-	-
	Use of Phosphoric Acid 150 ml/1000lit.					-
	after removal of heavy scum	90 (100.00)	-	20 (22.22)	70 (77.78)	
						-
5.	Striking point					
	Use of 200ml castor oil or sweet oil at 105-110 oC temperature	90 (100.00)	-	90 (100.00)	-	-
	Constant stirring to avoid darkening of jaggary	90 (100.00)	-	90 (100.00)	-	-
	Heavy stirring leads to softness					
	Striking point –Temp.-118 + 5 oC	90 (100.00)	-	67 (74.44)	23 (25.56)	-
	Use of thermometer to check temp.	90 (100.00)	-	90 (100.00)	-	-
	or Goli test	90 (100.00)	-	04 (04.44)	-	86 (95.56)
		90 (100.00)	-	90 (100.00)	-	-

Knowledge and adoption of recommended jaggary production technology:

The data regarding the knowledge and adoption of recommended jaggary production. technology by the farmers are presented in Table 2

Knowledge :

The data of Table 2 indicate that, all the respondents had a knowledge about identification of cane maturity according to physical appearance and crop period, harvesting, post harvest technologies except pH of cane juice (74.44 per cent) and use of pH meter (77.78 per cent), juice temperature and its measurement with thermometer (74.44 per cent).

Adoption :

It is revealed from Table 2 that all the respondents adopted identification of cane maturity according to physical appearance and crop period harvesting. All the respondents adopted cane crushing within 6-12 hrs, use of vegetable mucilages like Bhendi powder.All the respondents partially adopted use of phosphoric acid (77.78 per cent).

These findings are supported by Sasane *et al.*(2009).

Table 3: Distribution of respondents according to constraints faced in jaggary production and marketing

Sr. No.	Constraints	No. of farmers (n=90)	Per cent
1.	Unavailability of skilled labour	90	100.00
2.	Unavailability of credit at low interest rates	90	100.00
3.	Irregularity of electricity supply	90	100.00
4.	Fluctuation in market rates	90	100.00
5.	Malpractices in market Substitute block system	90	100.00
6.	Lack of knowledge about export	81	90.00

Constraints faced by the farmers:

The information in respect of constraints faced by the farmers in jaggary production and marketing are given in Table 3.

It is predicted from Table 3 that all the respondents' malpractice in market particularly substitute block system, fluctuations in market rates, irregular electricity supply, unavailability of credit at low interest rates for starting the season, unavailability of skilled labours and knowledge about export system of jaggary are the major constraints faced by them. These findings are supported by Sasane *et al.* (2010).

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