



Research Paper

Value addition in wheat – biscuit, buns, toast

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ABSTRACT : The present study was conducted to value addition in wheat crop and selected products were biscuit, buns and toast. Benefit cost ratios of these products were greater than one *i.e.* 2.09, 2.33 and 1.92, respectively. Wheat (*Triticum aestivum* L.) is the world most widely cultivated as a cash crop because it produces a good yield per unit area, grows well in a temperate climate even with a moderately short growing season. Wheat is a staple food and also an important of daily diet. There is an increasing trend in respect of area during the last decade. The cultivators earn a good profit from wheat production and there is also advantage of value addition in wheat and it gives good profit to processor and farmer also.

KEY WORDS : Value addition, Wheat, Break-even point, B:C, Fixed cost, Variable cost

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INTRODUCTION :

Processing and value addition are the important aspect for wheat. In India, there is only cost addition no value addition in agricultural commodities. In developed countries, more than 80 per cent of the produce is processed. Value addition in agricultural products is one of the important means of creating time and form utility, adding value of the product and boosting up the demand and supply of food products. An economic analysis of processing industry is important from the point of view of development of processing industry. In view of this an attempt has been made to work out the value addition in wheat in Amravati division.

majority of wheat processing units were concentrated in the area.

Selection of sample for value addition of wheat							
Sr. No.	Particular	Akola	Amravati	Buldhana	Washim	Yavatmal	Total
1.	Bakery	6	4	2	1	2	15

Source of data :

Primary data pertained for the year 2011. The primary data related to processing of wheat were collected from selected processing units in a specially designed schedule by personal interview with the owners of processing units and their staff.

Break-even analysis :

Break-even point shows the minimum size of volume to recover cost required for processing in a year. Break-

MATERIALS AND METHODS :

Amravati division was purposively selected as

even point for wheat of different installed capacities was calculated with the following formula.

$$\text{Break - even point} = \frac{\text{Annual fixed cost}}{\text{Selling price per quintal} - \text{Variable cost per quintal}}$$

RESULTS AND DATA ANALYSIS :

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Bakery products :

In baking of wheat India has a large baking industries which are engaged in the manufacture of biscuits, bun, toast. It is reserved for small scale sector. Capital investment in bakery is presented in Table.

Capital investment in bakery :

Table 1 revealed that the total capital investment in bakery was Rs. 7.93 lakh. Among these, capital investment on machinery, equipment and accessories (including vehicle) was more (47.27 %) followed by building (23.01 %), land (19.43 %) and permanent labour and miscellaneous expenditure was 5.30 and 4.99 per cent, respectively.

Annual fixed cost of bakery :

It is revealed from Table 2 that the total fixed cost of bakery was Rs. 160266.20.

Economics of processing of biscuit :

The economics of processing of biscuit cost and returns were worked out for one kg of biscuit, it is presented in Table 3. Total cost incurred for the preparation of biscuit was Rs. 84.21 per kg. Total variable cost (95.28 %). Among the variable cost, cost of dalda/ vanaspati accounted 33.25 per cent followed by wheat flour (20.19 %), sugar (19.00 %), respectively.

Total raw material was Rs. 63.25 (75.11 %). Total fixed cost was Rs. 3.86 (4.58 %). The percentage of marketing cost was 0.14 per cent. The total returns obtained from one kg sale of product was Rs. 175.00. The net returns was Rs. 90.79. Benefit-cost ratio was 1:2.06 for biscuit in bakery.

Value addition of wheat in biscuit :

Adding value is the process of changing or transforming a product from its original state to a more valuable state. The value addition in wheat was worked out per quintal of product *i.e.* biscuit prepared. The detail so worked out are presented in Table.

It is revealed from Table 4 that the purchase price of raw material for the preparation of biscuits was Rs. 6325.00 and cost of processing was Rs. 8421.00. The gross returns from biscuits was Rs. 17500.00. The value addition in biscuit over raw material was Rs. 2754.00. In terms of per cent increase over the raw material price it was recorded as 276.68 per cent.

			(Rs. in lakh)	
Sr. No.	Particulars	Amount	Per cent	
1.	Land	1.54	19.43	
2.	Building	1.83	23.01	
3.	Machinery, equipment and accessories (including vehicle)	3.75	47.27	
4.	Permanent labour (Annual salary and bonus)	0.42	5.30	
5.	Miscellaneous expenditure	0.39	4.99	
	Total	7.93	100.00	

			(Rs.)	
Sr. No.	Particulars	Amount	Per cent	
1.	Depreciation on building @ 5%	9125.00	5.69	
2.	Depreciation on machinery, equipments and accessories @ 10%	37500.00	23.40	
3.	Depreciation on furniture @ 10%	3955.60	2.47	
4.	Interest on fixed capital @ 10%	63905.60	39.87	
5.	Permanent labour	42000.00	26.21	
6.	Tax, licence and insurance	3780.00	2.36	
	Total fixed cost	160266.20	100.00	

Break even analysis for biscuit :

The point at which the two curves, *i.e.* total cost curve and total revenue curve intersect is called the Break even point (BEP), which indicates the level of production at which the producer neither loses money nor makes a profit. Breaks-even point is that volume of business, which will just cover the fixed costs after fully recouping the variable costs. This concept is important in any business

as it indicates minimum amount of business necessary for operating the enterprise in short-run without loss. In this study break-even point for the production of biscuit was calculated and is presented in Table 5.

In this bakery, total fixed cost was Rs. 160266.20. The products *viz.*, biscuit, bun and toast were prepared in the bakery and hence, the total fixed cost was distributed on biscuit, bun and toast. The fixed cost was

Table 3 : Economics of processing of biscuit			(Rs./kg)
Sr. No.	Particulars	Cost	Per cent
	Variable cost		
1.	Raw material		
	Wheat flour	17.00	20.19
	Sugar	16.00	19.00
	Dalda / vanaspati	28.00	33.25
	Salt	0.75	0.85
	Essence (edible)	1.50	1.78
	Sub-total	63.25	75.11
2.	Packing material with lable	3.57	4.24
3.	Electric, water and testing analysis charges	0.67	0.80
4.	Casual labour charges	4.00	4.75
5.	Sales tax	0.14	0.17
6.	Interest on working capital	8.60	10.21
	Total variable cost	80.23	95.28
	Fixed cost		
7.	Interest of fixed capital	2.18	2.59
8.	Depreciation	1.68	1.99
	Fixed cost	3.86	4.58
	Marketing cost	0.12	0.14
	Total cost per kg (A+B+C)	84.21	100.00
	Price per kg	175.00	
	Net returns per kg	90.79	
	Benefit cost ratio	1:2.09	

Table 4 : Value addition of wheat in biscuit			(Rs./q)
Sr. No.	Particulars	Cost	
1.	Cost of raw material	6325.00	
2.	Cost of processing	8421.00	
3.	Gross returns	17500.00	
4.	Value addition	2754.00	
5.	Per cent increase over the raw material	276.68	

Table 5 : Break even analysis for biscuit			(Rs.)
Sr. No.	Particulars	Cost	
1.	Annual fixed cost	53422.07	
2.	Selling price	17500.00	
3.	Variable cost	8023.00	
4.	Break even point (q)	5.64	

Rs. 53422.07 for biscuit, bun and toast. The Table 5 revealed that the annual fixed cost was Rs. 53422.07 and variable cost was Rs. 8023.00 and selling price was Rs. 17500.00 the minimum output level required to cover at least the cost of production was 5.64 quintal of raw material for making biscuit.

Economics of processing of bun and toast :

The economics of bakery products *i.e.* bun and toast were estimated and the details of cost and returns are presented in Table 6. Total cost incurred per kg for the production of bun and toast was Rs. 51.40 and Rs. 52.15, respectively. Total variable cost was Rs. 47.42 and Rs.

Sr. No.	Particulars	(Rs./kg)			
		Bun	Per cent	Toast	Per cent
	Variable cost				
1.	Raw material				
	Maida	13.89	27.02	13.89	26.63
	Sugar	3.20	6.23	3.20	6.14
	Dalda / vanaspati	7.00	13.62	7.00	13.42
	Salt	0.37	0.72	0.37	0.71
	Baking powder	1.50	2.92	1.50	2.88
	Yeast	10.50	20.43	10.50	20.13
	Other material	1.00	1.95	1.00	1.92
	Sub-total	37.46	72.89	37.46	71.83
2.	Packing material with lable	1.57	3.05	1.57	3.01
3.	Electric, water and testing analysis charge	0.67	1.30	1.34	2.57
4.	Casual labour charges	2.50	4.86	2.50	4.79
5.	Sales tax	0.14	0.27	0.14	0.28
6.	Interest on working capital	5.08	9.88	5.16	9.89
	Variable cost	47.42	92.25	48.17	92.37
	Fixed cost				
7.	Interest on fixed capital	2.18	4.24	2.18	4.18
8.	Depreciation	1.68	3.27	1.68	3.23
	Fixed cost	3.86	7.51	3.86	7.40
	Marketing cost	0.12	0.24	0.12	0.23
	Total cost (A+B+C)	51.40	100.00	52.15	100.00
	Price per kg	120.00		100.00	
	Net return per kg	68.60		47.85	
	Benefit cost ratio	2.33		1.92	

Sr. No.	Particulars	(Rs./q)	
		Bun	Toast
1.	Cost of raw material	3746.00	3746.00
2.	Cost of processing	5140.00	5215.00
3.	Gross returns	12000.00	10000.00
4.	Value addition	3114.00	1039.00
5.	Per cent increase over the raw material	320.34	265.67

Sr. No.	Particulars	Bun (Rs.)	Toast (Rs.)
1.	Annual fixed cost	53422.07	53422.07
2.	Selling price	12000.00	10000.00
3.	Variable cost	4742.00	4817.00
4.	Break even point (q)	7.36	10.31

48.17, respectively. 92.25 per cent for buns and 92.37 per cent for toast which was nearabout same. Among the variable cost, the cost of maida was more Rs. 13.89 (27.02 %) followed by yeast, dalda/ vanaspati, sugar.

Total cost incurred for toast was more than buns because electricity required for toast was double for baking toast. Price of buns and toast per kg was as Rs. 120.00 and Rs. 100.00, respectively. Net returns of bun was Rs. 68.60 and in toast was Rs. 47.85, respectively. Net returns of bun was greater than toast. The benefit cost ratio was 1:2.33 for buns and 1.92 for toast.

Value addition in bun and toast :

It is revealed from Table 7 that the purchase price of maida for the preparation of bun and toast was Rs. 3746. The cost of processing was Rs. 5140 in bun and Rs. 5215 in toast making. The gross returns of bun and toast was Rs. 12000 and Rs. 10000, respectively. The value addition over the value of raw material was for bun and toast products were Rs. 3114.00 and Rs. 1039.00, respectively. In terms of per cent increase over the raw material price, it was 320.34 per cent for bun and 265.67 per cent for toast.

Break even analysis for bun and toast :

Break-even point is that volume of business which will just cover the fixed costs after fully recouping the variable cost.

Table 8 showed that the minimum output level required to cover at least the cost of production was 7.36 quintals for bun and 10.31 quintals for toast. Break-even quantity for bun was less as compare to toast.

Conclusion :

Value added products significantly enhance farmers business, affording them a steady income throughout the year. Farmers also emphasize that real satisfaction has come from the knowledge they have developed a high

quality, distinctive and unique product that garner loyal customers and consistent positive feedback. Value added food processing includes any step in the production process that improves or adds value to the food product for the customer and result in a higher net worth of that product. Benefit cost ratios of these products *i.e.* biscuit, buns and toast were greater than one indicated that value addition in wheat products were beneficial.

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LITERATURE CITED :

- Naresh, N., Khatkar, R.K. and Singh, V.K. (2002). Role of sugarcane processing industry and efficiency of processing in Haryana. *Indian J. Agric. Mktg.* (Conf. Spl.), **16**(3) : 92-96.
- Pena, R.J. (2002). *Wheat for bread and other foods*: FAO Plant Production and Protection Series : 30.
- Randev, A.K. (2006). Value addition in case of apple in Himachal Pradesh through improved marketing functions. *Indian J. Agric. Mktg.*, **20**(3) : 106.
- Roy, B.C. (2008). Studied fruit and vegetable processing in India and its role in Agricultural development. *Indian J. Agric. Econ.*, **63**(3) : 381.
- Sen and Baranwal (2003). Economics of pickle processing units in Ratnagiri district. *Indian J. Agric. Mktg.*, **18**(3) : 45.
- Yadav, H. (1998). Consumer buying behavior for fresh and processed vegetables. *Bihar J. Agric. Mktg.*, **6**(1) : 25-30.


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