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Value Added Analysis of Beef Floss with Fillers of Papaya Fruits and Banana Blossom'S

To cite this article: Sri Handayani *et al* 2020 *J. Phys.: Conf. Ser.* **1500** 012062

VALUE ADDED ANALYSIS OF BEEF FLOSS WITH FILLERS OF PAPAYA FRUITS AND BANANA BLOSSOM'S

Sri Handayani, Chandra Utami Wirawati, Dwi Eva Nirmagustina, Sarono

ABSTRACT : Beef floss is a complementary food that is very popular with the community. The technology of making beef floss is increasingly varied following the trend of public demand. The problem faced by the household industry that produces beef floss is the high cost of production. Steps to use fiber-rich food sources can be used as a solution to increase the quantity of beef floss production without damaging quality. This research purpose to analyze the value added utilization of fiber-rich materials papaya fruit and banana blossom's as fillers for beef floss production. The method used in this study is the observation method in the Karya Sejahtera Women's Farmer Group. Analysis of the data used is an analysis of the value added approach of Hayami. The results showed that the added value created from the processing of beef floss with fillers of papaya fruit provides higher added value compared to the banana blossom's which is Rp 153,000 / kg value-added ratio to the value of the product of 51% and profit Rp 180,000 / kg with the profit rate of 76%. The value of the profits obtained from the production of beef floss with papaya fruit fillers is higher than the banana floss and original.

Key words : value added, beef floss, papaya fuits, and banana blossom's

1. INTRODUCTION

Wawasan village is one of the villages in South Lampung Regency which has the highest area number after Tanjung Bintang villages which is an area of 438 Ha [1]. The potential of livestock in South Lampung Regency is very high and has large prospects for the economic growth of the local community [2]. In 2019, Wawasan villages was a priority area for integrated livestock development, namely Agro Techno Park, which was initiated by the Politeknik Negeri Lampung, Lampung University, and Bank Indonesia.

The majority of the residents of Wawasan villages work in the agriculture, livestock, and plantation sectors, namely 581 households from a total number of 860 households. Topographical conditions in the form of lowland and have abundant *germplasm* for forage biomass, so that the Village Insight is very potential in the development of livestock agribusiness [3]. The pattern of animal husbandry development carried out by farmers in Wawasan Village is generally still in the form of people's livestock business, where at certain times when farmers need money to meet urgent needs, the cattle are sold and the labor used still uses labor in the family. This has become a rooted problem in the group of farmers. Furthermore, the length of time to wait for sales (during sacrificial days) in order to get

a high selling price makes farmers prefer to sell to the *blantik*. The dominance of the role of the *blantik* (cattle collectors) on the formation of prices makes the bargaining position of the farmers lower.

We all know that agricultural products are seasonal, *perishable* , and *bulky*. This characteristic is a weakness of agricultural products so that they get a low price in the market [4]. The low selling price at the farmer's level has made farmers lazy to apply more treatment to their livestock as well as lack of knowledge. For this reason, the Regional Partnership Program forms a business unit for processing beef products to have high economic value. This business unit will be an additional source of livelihood for farmers besides taking care of their livestock. The step of diversification of processed products is expected to add products processed from beef and can increase consumption of beef for food, as well as steps to increase farmers' income. This will certainly provide a *multiplier effect* for both cattle farmers and the food household industry, namely the SMEs in the processed food sector [5].

Besides being consumed in the form of processed fresh meat, even various types of processed products made from beef, are currently growing very rapidly. One type of processed products made from meat that is timeless and is loved by almost all levels of society is Beef Floss. Beef floss is a type of typical dry food made from beef that is boiled and cutting, given herbs, fried, then pressed [6]. Beef floss is defined as one type of dry processed product in the form of crushed, made from meat with the addition of spices and fried. Then, Beef floss has a lower volume, is easily packaged, and can be stored longer. The production of beef floss is an alternative to processing beef to diversify products made from raw beef and to meet the protein needs of the community [7]. At present, the majority of beef floss producers are located in Java, while in Lampung Province they do not have beef floss production centers. Beef floss production business opportunities are considered quite bright if the farmer runs this business.

The problem faced by the Farmer Women Group in producing beef floss is the high production costs and not much production of beef floss. The use of raw materials of beef for 1 kilogram can produce 0.5 kilograms of beef floss. The production is considered uneconomical, because the profits obtained by farmers are very small. Innovative technology in the production of beef floss is needed so that it can produce more. The action taken can be in the form of giving beef floss fillers using additional ingredients. The results of the study [7] show that the addition of fiber-rich food can increase the production of beef floss without affecting the taste, aroma, color, and quality of beef floss. Fiber is a component that is needed by the body. Ingredients that contain lots of fiber will accelerate the transit time of food waste in the intestine so that it becomes shorter. The benefits of dietary fiber can reduce cholesterol in the blood [8]. In addition, fiber is a source of energy for the human body. Fiber-rich food that will be analyzed in this study is papaya fruit and banana blossom's. This study will assess which fiber-rich material is greater in providing added value to the production of beef floss. For this reason, a value added analysis is needed as a filler for the study of Karya Sejahtera Women's Farmer Group in producing beef floss.

This application is expected to help the group increase the amount of beef floss production, so that it has an impact on increasing business revenue. By strengthening farmer groups into productive institutions in the form of SMEs, it will increase the income of the community in general with the absorption of local labor [4]. Product processing through innovation technology will minimize *costs* production and increase production, so that it will have implications for increasing farmers' income.

2. METHODS

This study was conducted at the Karya Sejahtera Women's Farmers' Group in Wawasan Village as a center livestock farming. Primary data collection is carried out to members of the Karya Sejahtera Women's Farmer Group. Activities are carried out during March - May 2019. Survey methods and direct observations in the field are used in the collection of primary data and secondary data. The quantitative analysis by using Hayami method [9] was used to measure and analyse the added value for beef floss production with fillers papaya fruits and banana blossom's.

Calculation of value added analysis using the Hayami method is presented in Table 1.

Table 1. Calculation of Hayami added value analysis

No	Output, input, and price	Value
1.	Output (kg · d^{-1})	(1)
2.	Raw material Input (kg · d^{-1})	(2)
3.	Workers/ Labor (h · d^{-1})	(3)
4.	Conversion Factor	(4) = (1) / (2)
5.	Workers Coefficient (h · kg^{-1})	(5) = (3) / (2)
6.	Price of Product (IDR · kg^{-1})	(6)
7.	Wages (IDR · h^{-1})	(7)
	Revenue and Profit	
8.	Raw material Input (IDR · kg^{-1})	(8)
9.	Other Inputs (IDR · kg^{-1})	(9)
10.	Production (IDR · kg^{-1})	(10) = (4) × (6)
11.	Added value (IDR · kg^{-1})	(11a) = (10) – (8) – (9)
12.	Added value ratio AV (%)	(11b) = (11a) / (10) × 100
13.	Revenue of Workers (IDR · kg^{-1})	(12a) = (5) * (7)
14.	Workers share of VA (%)	(12b) = (12a) / (11a) × 100
15.	Profit (IDR · kg^{-1})	(13a) = (11a) – (12a)
16.	Rate of Profit (%)	(13b) = (13a) / (10) × 100

To find out the added value that can use the criteria:
1. If AV> 0, then it can be interpreted that the development of home industry provides added value.
2. If NT≤0, then it can be interpreted that the development of home industry does not provide added value.

3. RESULTS AND DISCUSSION

Beef Floss is a type of preserved food that is typical in shape with basic ingredients in the form of meat or fish. The resulting product has a soft shape, good taste, distinctive odor and has a relatively long lasting power [10]. There are many ways and spices that can be added to beef floss, so there are variations in the type and amount of spices used. This research will provide a variety of additives on beef floss in the form of fiber-rich food are papaya fruits and banana blossoms. The principle of making beef floss is boiling meat, grafting, mixing spices, brown sugar, salt and oil frying pan until dry. The choice of papaya fruit because it is a fruit that can be easily found in Indonesia and is widely used in vegetable production. The protein content of papaya fruit is 13.63% [11]. The utilization of papaya fruit can contribute to increasing added value and economic value in the field of food processing diversification. The choice of banana blossoms because it is still lacking in utilization of the banana plant. The research on making banana blossoms into processed products, namely banana blossoms jerky has been carried out [12].

The results of value added analysis at the Karya Sejahtera Women's Farmers' Group in Wawasan Villages, Tanjung Sari District can be seen in Table 2.

Table 2. Results of calculation of added value beef floss

No	Output, input, and price	Varian		
		Original	Papaya Fruits	Banana Blossoms
1	Output (kg · d^{-1})	12	24	22.4
2	Raw material Input (kg · d^{-1})	24	24	24
3	Workers/ Labor (h · d^{-1})	6	8	8
4	Conversion Factor	0.5	1	0.93
5	Workers Coefficient (h · kg^{-1})	0.25	0.33	0.33

6	Price of Product (IDR · kg^{-1})	400,000	300,000	300,000
7	Wages (IDR · h^{-1})	50,000	50,000	50,000
	Revenue and Profit			
8	Raw material Input (IDR · kg^{-1})	120,000	120,000	120,000
9	Other Inputs (IDR · kg^{-1})	24,000	27,000	28,500
10	Production (IDR · kg^{-1})	200,000	300,000	280,000
11	Added value (IDR · kg^{-1})	56,000	153,000	131,500
12	Added value ratio VA (%)	28%	51%	47%
13	Revenue of Workers (IDR · kg^{-1})	12,500	16,667	16,667
14	Workers share of VA (%)	22%	11%	13%
15	Profit (IDR · kg^{-1})	43,500	136,333	114,833
16	Rate of Profit (%)	78%	89%	87%

The results of value added in Table 2 show that the average production capability of Karya Sejahtera Women's Farmers' Group in 1 month of production is 12-24 kilograms of beef floss with different variations, namely original as much as 12 kg, variations in fillings of papaya fruit 24 kg, and variations in banana blossoms filling 22.4 kg. The average raw material for beef is 24 kg per month. The beef is then processed into beef floss. Initially Karya Sejahtera Women's Farmers' Group produced original beef floss, but the production yield was not much, causing small business profits. Furthermore, the technology for processing beef floss is given by providing fillers in the form of papaya fruits and banana blossoms.

Based on the amount of raw material used and the number of products produced, the conversion value for the original beef floss is 0.5, which means that for processing one kilogram of beef will produce 0.5 kilograms of beef floss, so the lost weight is 0.5 kilograms due to shrinkage of moisture content during the processing process. The conversion value for beef floss with fillers of papaya fruit is 1, meaning that for processing one kilogram of raw material beef will produce 1 kilogram of beef floss. While for beef floss with banana blossoms fillers, a smaller conversion value of 0.93 is obtained, which means processing one kilogram of beef will produce 0.93 kilograms of beef floss.

The coefficient of labor obtained varies between 0.25 - 0.33 is meaning that every processing of one kilogram of raw materials will require labor inputs of 0.25 - 0.33 HOK. The processing time is quite long because the product processing process is still done manually and traditional so that it takes precision, skills and experience of the processors. In other words, the development of the beef floss processing industry in a unit of cattle farming agribusiness system provides an opportunity for the creation of income sources for farmers in rural areas. The growth of alternative new sources of income in rural areas will encourage economic activity to generate increased income for the community. It will further be able to improve the standard of living of rural communities.

The price of beef as raw material is IDR 120,000 - / kg in the form of cut meat. To make beef floss per kilogram, a relatively larger contribution of other ingredients is needed for the original beef floss variant of IDR 24,000, - variant of papaya fruit IDR 27,000, - and banana blossoms IDR 28,500,- per kilogram of raw material. The use of banana blossoms as a filler is more than papaya fruit, causing the amount of additional costs banana blossoms to be greater than that of papaya fruit. The price of beef floss varies, for the original taste the price per kilogram depends on each variant of IDR 400,000,- and IDR 300,000,- for the beef floss variant with papaya and banana blossoms ingredients. The value added obtained from each beef floss product ranges from IDR 56,000,- IDR 153,000 with value added ratio range from 28% - 51%. The highest added value is found in beef floss products with variation in the fillings of papaya fruit which is IDR 153,000 and 51% value added ratio which means that for every cost incurred in the amount of IDR 100, - from the value of the product, an added value of IDR 51. While the

original beef floss products have the lowest added value, this is because the mixture is not given to the beef floss raw material. The ratio of value added beef floss is 0.28 - 0.51 is indicating that the ratio of added value is more than zero, so it can be interpreted that the development of *home industry* provides added value.

The benefits obtained from processing one kilogram of beef raw material for each product range range from IDR 43,500,- – IDR 136,333,-. The biggest advantage is in beef floss product, the filler variant of papaya fruit is IDR 136,333 with a profit portion of 89%, it meaning for every IDR 100,- the value of the product produced will be around IDR 89,-. Meanwhile for the banana with a variant of the heart of the banana, there was a smaller profit of IDR 114,833 with a profit of 27%.

Based on the value added analysis, it can be seen that the processing of beef floss by providing a variant of fillers papaya and banana blossoms provides greater added value than the original beef floss processing. This is in accordance with the results of the study [13] that the provision of fiber-rich fillers can increase the added value of the product. The results of the analysis explain that beef floss filler material is superior/has the greatest added value and contributes to the increase in income is a variant of papaya fruit. Physically, taste, and flavour, the use of papaya fruit is preferred over of banana blossoms. So, if a group of women farmers wants a higher level of profit, the production of beef floss with fillers of papaya fruit can be the main choice.

Processing of beef floss with filler papaya fruit is recommended to be produced continuously and the group must carry out a quality production process in accordance with market demand. The active involvement of marketing institutions through retail / retailers and in collaboration with food entrepreneurs who need beef floss as an additional ingredient will determine the success rate of the business on an ongoing basis.

4. CONCLUSION AND SUGGESTION

Conclusion

The value added beef floss with fillers of papaya fruit is IDR 153,000,- with ratio 51%, while beef floss with banana blossoms filler is worth IDR 131,500,- with ratio 47%. The value of production profit per kilogram of beef floss product with papaya filler material was obtained IDR 136,333,- and beef floss with banana blossoms filling material IDR 114,833,-. This shows that beef floss with fillers of papaya fruit provides added value and higher business profits as an alternative business that develops in women farmer groups.

Suggestions

For women farmer groups, to make beef floss with fillers will increase the added value and income in the business that has been undertaken. The increase in capacity of beef floss production with papaya fruit filling can be an option to increase business income because it has a large value-added ratio.

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