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EASE OF COMMERCIALIZATION AND DOWNSTREAM PROCESSING OF GINGER-PROCESSED PRODUCTS

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ABSTRACT

This research aims to analyze the input of raw materials and other inputs, receipts, and benefits, and analyze the added value of processed ginger products as herbal drinks. The processed ginger products analyzed are the syrup drink "Sarabba" and the spice syrup "Habbatussauda". The research was conducted on Ballaratea micro-businesses in Gowa Regency, South Sulawesi Province. Business analysis methods used include cost analysis, receipts, profits and R/C ratio. Value-added analysis using the Hayami method. The results of the value-added analysis showed that Sarabba syrup products gave an added value of Rp 349,382 / kg where every Rp 100 the value of sarabba syrup products gave an added value of Rp 70.58. The added value of spice syrup "Habbatussauda" amounted to Rp 548,116 / kg where every Rp100 value of spice syrup products "Habbatussauda" gave an added value of Rp 91.35.

ABSTRAK

Penelitian ini bertujuan untuk menganalisis input bahan baku dan input lainnya, penerimaan, dan keuntungan, serta menganalis nilai tambah produk olahan jahe sebagai minuman herbal. Produk olahan jahe yang dianalisis adalah minuman sirup "Sarabba" dan sirup rempah "Habbatussauda". Penelitian dilaksanakan pada usaha mikro Ballaratea di Kabupaten Gowa, Provinsi Sulawesi Selatan. Metode analisis usaha yang digunakan meliputi analisis biaya, penerimaan, keuntungan dan R/C ratio. Analisis nilai tambah menggunakan metode Hayami. Hasil analisis nilai tambah menunjukkan bahwa produk sirup Sarabba memberikan nilai tambah sebesar Rp 349.382/kg dimana setiap Rp 100 nilai produk sirup sarabba memberi nilai tambah sebesar Rp 70,58. Nilai tambah sirup rempah "Habbatussauda" sebesar Rp 548.116/kg dimana setiap Rp100 nilai produk sirup rempah "Habbatussauda" memberi nilai tambah sebesar Rp 91,35.

INTRODUCTION

Agricultural commodities are generally produced as raw materials and easily damaged, so they need to be directly consumed or processed first. Downstreaming in processing can increase the use of *forms* (*form utility*) of agricultural commodities. One type of agricultural commodity is herbal crops, Herbal plants for many years have been used to deal with health problems.

Plants that are classified as herbs, especially the root (rhizome) are widely used by the community for cooking spices and herbs (herbal drinks) (Supardi, Herman, & Yuniar, 2011; Yuliani & Kailaku, 2009). Herbal drinks are one of the products of rhizome plants that are favored by the public because they can have a positive effect on health (Tasia & Widyaningsih, 2014; Pongsbiidang, 2017). The emergence of back *to nature* trends by the community that motivates them to be more selective and careful in buying a product. This condition requires the existence of products that are in accordance with people's consumption patterns that have many health and nutritional benefits.

According to (Dewi, Nusril, Helmiyetti, Rosalina, and Sarumpaet, 2013), downstream agricultural commodities allows for an increase in shelf life (time utlity) and facilitates transportation and is able to maintain the nutrients contained in these commodities.

Ginger (Zingiber officinale) is one type of herbal plant that has a high enough economic value that has the potential to be developed. The need for ginger increased especially during the Covid 19 pandemic, because it began to develop small to medium enterprises (MSMEs) that use ginger as a processed product, such as the business of making traditional drinks of instant ginger, herbs, instant cooking spices as well as traditional medicines made from ginger that are packaged modernly (Rukmana, 2000).

Ginger has important content, namely essential oils, active substances in essential oils, including zingeberin, kamfer, lemonin, borneol, shogaol, gingerol, zingeron, and other natural antioxidant substances. Umumnya is cultivated to be used as an ingredient for health drinks. The nutritional content of per 100 grams (g) of ginger rhizome, namely energi 79 kcal, karbohydrate 17.86 g, serat 3.60 g, protein 3.57 g, iodine 14 mg, iron zat 1.15 g, potasium 33 mg, and vitamin C 7.7 mg.

New product development must pay attention to several things including increasing the added value of the product in a certain level of competition (Griffin, 1997). Downstream and competitiveness of herbal beverage products "Sarabba" and spice drinks "Habbatussauda" can be measured by a value-added approach. According to Hayami in Dewi et al. (2013), added value is the difference in commodity value due to treatment at a certain stage which is reduced by expenditures made during the process. Added value is influenced by technical factors (production capacity, application of technology, product quality, quality of raw materials and concomitant inputs) and market factors (selling price of output, labor wages and raw material prices). It is necessary to analyze the added value of the drink "sarabba" and spice syrup "habbatussauda" to find out how much sacrifice for the services issued in a business so as to provide a profit picture for the company. This study aims to analyze the efforts of processed products of ginger plants (sarabba syrup and habbatussauda spice syrup) and the added value of the sarabba syrup beverage business and habbatussauda spice syrup.

RESEARCH METHODS

The research site was conducted at Ballaratea Micro Business in Taeng Village, Gowa Regency, South Sulawesi Province. The research location was chosen deliberately (purposive) with the consideration that the micro-business "Ballaratea" is a business that produces syrup "Sarabba" and spice syrup "Habbatussauda". The study took place from June to August 2020.

The data used in this study is primary data and secondary data. Primary data is obtained through observation by observation and recording directly carried out during the process of making sarabba syrup and Habbatussauda spice syrup business activities.

The analysis of the data used in this study is divided into two parts. The first part is a business analysis that includes cost analysis, receipt, profit and R/C Ratio (Cashmere & Jakfar, 2013), and the second part is added value analysis (Hayami, Kawagoe, Marooka, & Siregar, 1987).

RESULTS AND DISCUSSIONS

Cost Analysis

Cost analysis is a tool used to explain the relationship between cost and volume or number of products to be produced by a company. Cost analysis is formed based on two costs, namely fixed costs (fix cost) and variable costs (variable costs). Where the cost remains is the cost incurred in a fixed amount, not affected by the volume to be produced, such as; the cost of depreciation of the tools and machines used. Variable costs are costs that are multiplied according to the volume to be produced, for example input costs (Barnard, Akridge, Dooley, Foltz, & Yeager, 2012).

Table 1. Amount of Cost on the Production Process of Syrup "Sarabba" and Spice Syrup "Habbatussauda" /month

No	Cost Types	Sarabba Syrup Sum (Rp)	Percent(%)	Habbatussauda Syrup Sum (Rp)	Percent(%)
1.	Fixed Cost	3.085.041,63	20,31	2.085.041,63	21,00
2.	Variable Cost	12.104.750,00	79,69	7.848.000,00	79.00
3.	Total Cost	15.189.791,63	100	9.933.041,63	100

Source: Primary data analysis, 2020.

The data in Table 1 shows that the biaya formed is in accordance with agro-industrial research of similar products that use the same calculations, such as research on the analysis of the financial feasibility of corn-based noodles (Kusuma & Mayasti, 2014), the analysis of the added value of agroindustry of banana sales (Hasanah, Mayshuri, & Djuwari, 2015), as well as the analysis of added value and rewards for agricultural product processing factors (Kustiari, 2012).

Business Feasibility on Syrup Products "Sarabba" and Spice Syrup "Habbatusauda"

Business feasibility is an activity to determine whether a business is worth running or not. A business can be said to be worth trying if the entrepreneur benefits from the effort he does.

Table 2. Feasibility of The Production Process of Syrup "Sarabba" and Spice Syrup "Habbatussauda" in 2020.

No.	Description	Product Type	
		"Sarabba" Syrup	Spice Syrup "Habbatusuada"
1.	Revenue	61.875.000,00	33.600.000,00
2.	Production Cost	15.202.291,60	9.945.541,63
3	Benefits	46.672.708,40	23.654.458,37
4.	**R/C Ratio**	**4,0**	**3,37**

Source: Primary data analysis, 2020.

Acceptance is the result obtained by business actors or the sum of the number of products sold and the price of products sold. So that the components taken into account in receipt consist of the number of products (Q) and price (P) (Barnard et al., 2012). Profit is the difference from the total receipts with the total cost that has been incurred. The processing of agricultural products can increase the benefits obtained when compared to fresh agricultural products that are directly sold

(Born, 2001). The business of processing herbal drinks sarabba syrup and habbatussauda spice syrup is one of the efforts in increasing profits.

Based on the receipts obtained and the costs incurred, the proceeds from the sale of sarabba syrup provide a profit of Rp 46,672. 708.4, and habbatussauda spice syrup for Rp 23,654,458.37. The profit from the sale of sarabba syrup and habbatussauda spice syrup shows that the business is worth running because it is profitable. This is also supported by the results of the analysis of R / C ratio of sarabba syrup which is greater than 1, namely 4.0 and habbatussauda by 3.3. The results of the analysis of the R /C ratio of sarabba syrup show that every Rp 1 cost incurred by the company will get an receipt of Rp 4.0 so that the profit obtained is Rp 3.0. The results of the analysis of the R / C ratio of black magic syrup is greater than 1, which is 3.37, showing that every Rp 1 cost incurred by this business will get an receipt of Rp 3.37 so that the profit obtained is Rp 2.37. From the results of the calculation analysis on the two products, it shows that the product is worth running. The advantages obtained in producing sarabba syrup are greater than those of habbatussauda spice syrup products.

Added Value of Ginger Processing Into Sarabba Syrup and Habbatussauda spice syrup.

The added value of ginger to Sarabba syrup and spice syrup "habbatussauda" is calculated using the Hayami method. The Hayami method is one of the methods or ways to estimate changes in raw materials after getting treatment. The calculation of added value using the hayami method can be seen in Table 3.

Table 3. Added Value of Syrup Products "Sarabba" and "Habbatussauda", 2020.

	Basic Components	Formula	Added Value	
			Sarabba	Habbatussauda
A. Output, Input and Price				
1	Syrup product output "Sarabba"(bottle)	(1)	1.125	560
2	Raw ginger input (kg)	(2)	125	56
3	Workforce (HOK)	(3)	25	25
4	Conversion factor	(4)=(1)/(2)	9	10
5	Labor coefficient (HOK/kg)	(5)=(3)/(2)	0,2	0,4
6	Syrup output price "sarabba" (Rp)	(6)	55.000	60.000
7	Labor wages (Rp/HOK)	(7)	40.000	40.000
B. Added Value & Revenue				
8	Raw material input price (Rp/kg)	(8)	65.000	45.000
9	Other input donations (Rp/kg)	(9)	80.618	96.000
10	Syrup output value "sarabba"(Rp)	(10)=(4)x(6)	495.000	600.000
11	a. Added value (Rp/kg)	(11a)=(10)-(9)-(8)	**349.382**	**548.116**
	b. Value-added ratio (%)	(11b)=(11a/10)x100%	**70,58**	**91,35**
12	a. Labor income	(12a)=(5) x (7)	8.000	16.000
	b. Labor share (%)	(12b)= (12a/11a) x 100%	2,2	2,9

Source: Primary data analysis, 2020.

Based on data in Table 3 shows that the added value of processing ginger into sarabba syrup and blackhabbatussauda spice syrup provides a fairly high added value, namely for sarabba syrup of Rp 349,382 / kg where every Rp 100 the value of sarabba products has an added value of Rp 70.58. The added value of spice syrup "Habbatussauda" amounted to Rp 548,116 / kg where every Rp 100 value of spice syrup products "Habbatussauda" provides an added value of Rp 91.35.

This is in line with the results of research from Suardani, Darmadi, & Semariyani, (2016) that the higher the added value of a product will trigger increasingly fierce competition in the acquisition of raw materials and product marketing because it is more profitable. The greater added value of agricultural products can play a role in increasing economic growth, and of course it can have implications for increasing business fields and community income, which in the long run can improve people's welfare (Kementrian Keuangan, 2012).

The added value of agricultural products has grown rapidly this decade as a movement to raise awareness of cultivating agricultural production and more consumers are asking for finished processed products (Program on Agricultural Technology Studies, 2005). Research on added value using hayami method calculations has been widely done on the assessment of the added value of agricultural commodities into finished products as done by (Febrina, Sinulingga, and Napitupulu, 2017).

Based on the processing of ginger plant commodities into instant drinks such as sarabba syrup and habbatussauda spice syrup is very beneficial for business actors because it provides a favorable value of receipt and profit, and can increase the shelf life of products. This is in line with the opinion of (Boehlje et al, 1997) that the processing of agricultural products into derivative products can increase added value, increase profits and increase shelf life considering that agricultural commodities are perishable or perishable.

CONCLUSION

The results of the analysis showed that the business of processing ginger into syrup "Sarabba" and spice syrup "Habbatussauda" was profitable because every Rp 1 cost incurred to produce Sarabba syrup gave an acceptance of Rp 4.0 so that a profit of Rp 3.0; and every Rp 1 cost incurred to produce spice syrup "Habbatussauda" will provide receipts of Rp 3.37 so that the profit obtained is Rp 2.37. The results of the value-added analysis showed that Sarabba syrup products gave an added value of Rp 349,382 / kg where every Rp 100 the value of sarabba syrup products gave an added value of Rp 70.58. The added value of spice syrup "Habbatussauda" amounted to Rp 548,116 / kg where every Rp100 value of spice syrup products "Habbatussauda" gave an added value of Rp 91.35.

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