Profitability Comparative Analysis of Soybean Farming Based On Variety in Grobogan Regency, Indonesia

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Abstract

The aims of study were to analyze income of soybean farming and comparative of soybean farming profitability based on the variety. The research was conducted in three districts of soybean production and development centers, namely Purwodadi, Pulokulon and Ngaringan. The study used a survey method, while the determination of sample used Purposive Stratified Quota Sampling Method as many as 80 respondents. Data were analyzed by farm income and profitability. The results showed that the income per season for Grobogan, Gepak Ijo and Anjasmara varieties were IDR 8,219,723.97/ha; IDR 9,443,540.25/ha and IDR 5,496,020.79/ha respectively. While the profitability for each variety was 100.06%, 141.45%; and 74.96% respectively. The profitability of soybean farming of Grobogan variety was not significantly different with Gepak Ijo variety and also with Anjasmara variety. However, the profitability of soybean farming of the Gepak Ijo variety was significantly different with the Anjasmara variety.

Keywords: Income, profitability, soybean farming, variety

Introduction

1.1. Background

Soybean is one of the food commodities that are needed by the people of Indonesia because it is a source of vegetable protein, fat, vitamins and minerals. The protein content contained in soybeans is the cheapest value compared to other protein sources (Winarsi, 2010). Soybean is also useful as green manure because it can increase soil fertility (Purwono, 2007). Soybean has emerged as the golden bean of the 21st century. It is looked upon not merely to supply st food for humans and animals but also improves soil fertility by fixing atmospheric nitrogen (Prasanna *et al*., 2021)

In 2017 Indonesia's total soybean production was 982,598 tons, while the national soybean demand reached 3.36 million tons (BPS, 2018). This condition causes a shortage of meeting the national soybean needs, thus requiring the government to import. Soybeans are not only used for direct consumption needs, but also for activities that can increase the added value of these commodities. These activities include the processing of soybeans into processed products, namely tofu, tempeh, tempeh chips, and other processed foods.

Grobogan is a regency as the largest contributor to soybean production in Central Java. Total soybean production in 2018 in Grobogan Regency reached 54,065 tons, while the total soybean production in Central Java Province was 129,794 tons. This condition means that as much as 37% of soybean production in Central Java is produced from Grobogan Regency (BPS, 2018). Soybeans that are developed in Grobogan Regency have various varieties, namely the Grobogan variety, Gepak Ijo variety, and Anjasmara variety. Of the three varieties, the Grobogan variety is the dominant variety cultivated by farmers. Meanwhile, farmers who cultivate the Gepak Ijo and Anjasmara varieties have relatively few populations and are concentrated in Ngaringan District, Grobogan Regency. From the variety of soybean, of course there are differences in several ways, both in terms of production costs, production quantity/productivity, production revenue, as well as in terms of income and farm profitability. Seed is one of the important crop production inputs, especially of new varieties remains a big challenge (Katungi *et al*., 2011). The condition is in accordance with the statement Ogbabe *et al*., 2017 that several soybean production technology including improving varieties, crop management and protection techniques have been continuously generated by agriculture research and disseminated to farmers for enhancing productivity and profitablity.

In an attempt to stimulate domestic soya bean production for food security and poverty reduction among farmers, crop administrators and rural development practitioners have placed emphasis on the introduction of modern and improved technologies for production by using soya varieties (Francis *et al*., 2021). The use of improved varieties suitable for the local environment is one of the important requirements for successful farming. High-yielding varieties are technology that farmers are interested in and are easily adopted. (Ruly *et al*., 2021)

Seeing the potential for soybean production in Grobogan Regency, it is necessary to make efforts to provide hope for farmers as producers. The hope is to earn income in order to improve their welfare. For this reason, intensive efforts to increase production are needed in Grobogan Regency, which is the center of soybean production in Central Java. There are several things that cause problems in increasing soybean production, including doubts for farmers about the economic feasibility of their farming, high production costs, and the economic potential of other superior commodities. This condition results in soybean farming being less competitive than other commodity farming. One indicator of the competitiveness of a commodity is if the commodity can generate maximum income and profitability. Likewise, the variety of soybean varieties found in Grobogan Regency, of course, requires identification in terms of physical value, rupiah value and economic efficiency of farming. Based on these values, it can be used as a recommendation to improve the welfare of farmers and for the development of soybean farming in Grobogan Regency.

1.2. Research Objectives

1) Analyze soybean farming income based on the variety of soybean varieties cultivated by farmers in Grobogan Regency.
2) Analyze the comparative value of soybean farming profitability based on the variety of varieties cultivated by farmers in Grobogan Regency.

1.2. Benefits of Research

1) For soybean farmers in Grobogan Regency, the results of this study are useful as a source of information in conducting cultivation, so that alternative varieties of soybean commodities can be obtained that can generate maximum farm income.
2) For the local government, in this case the relevant technical agencies, that the results of this study are useful as a source of information related to making soybean farming development policies in Grobogan Regency.
3) For other interested parties or researchers, that the results of this study are useful as a reference source for further research.

Research Methodology

2.1. Conceptual Framework

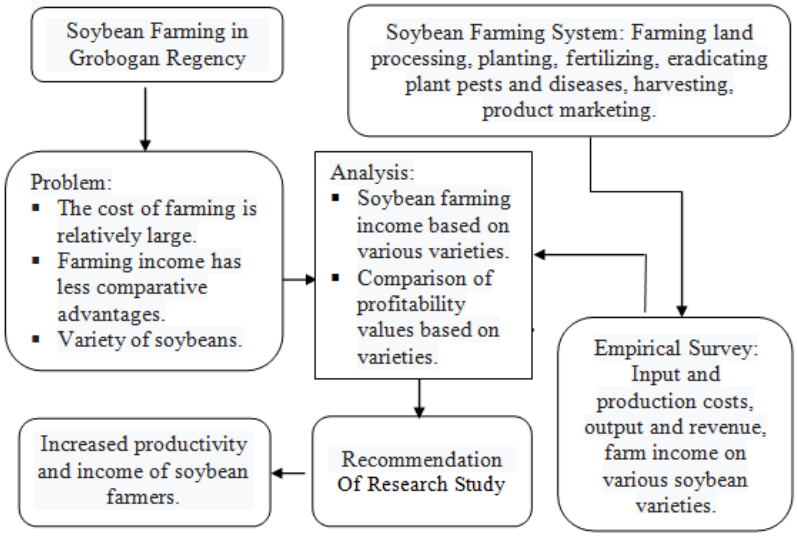

Illustration 1. Research Thinking Framework Chart

Soybean farming in Grobogan Regency is mostly cultivated by smallholder farmers. Judging from the problems of farming, among others, the production cost of soybean farming requires relatively large capital while the price of the product is relatively constant and tends to be low, so that the income of soybean farmers is not as expected by farmers. From these conditions, soybean farming has not been cultivated intensively, and the production process is not fully oriented to maximizing operating income (not yet profit oriented). Factors that cause soybean farming has not been cultivated intensively, among others, soybean farming is generally carried out by smallholder farmers, large farming capital, so that productivity and farm income are not as expected by farmers. On the other hand, the prospect of soybean commodities is very potential, because in reality the domestic demand for soybeans is much greater than the quantity of production, so Indonesia must import. As an effort to develop soybean farming to increase the quantity of production in the Grobogan Regency area, it is necessary to have policies that have an orientation towards increasing the ability of farming management for soybean farmers, in addition to other policies. For this reason, a study is needed, mainly based on the variety of soybean varieties, so recommendations for the development of soybean farming can be obtained in order to increase farmers' income and welfare.

2.2. Research Methods and Sampling

The research was conducted using a survey method. Survey research is research that takes a sample from one population and uses a questionnaire as the main data collection tool (Singarimbun & Effendi, 1989).

Determination of the sample using the Purposive Stratified Quota Sampling Method. Purposive, applied to determine the research location, namely in Ngaringan District, Purwodadi District, and Pulokulon District as production centers for soybean commodity development in Grobogan District, even in Central Java Province. The three districts have natural resources that are suitable for agroecosystem development and production of soybean commodities.

Stratified was applied to determine the variety of soybean cultivated in Grobogan Regency, which include the Grobogan variety, the Gepak Ijo variety, and the Anjasmara variety. The sample selected as respondents was determined by quota as many as 80 soybean farmers, with a distribution of 60 respondents for soybean farmers with the Grobogan variety, 10 respondents for soybean farmers with the Gepak Ijo variety, and 10 respondents for soybean farmers with the Anjasmara variety. The unbalanced number of samples taken for the three soybean varieties is because most of the soybeans cultivated in Grobogan Regency are generally Grobogan soybean varieties, and for the Gepak Ijo variety and the Anjasmara variety the demand is only slightly and concentrated in Ngaringan District.

2.4.Method of Analysis

Data analysis was carried out using farming income and profitability analysis, statistical analysis of independent sample t test. Inferential statistical analysis applied is independent sample t test, which is a statistical analysis to examine the comparison of profitability values between Grobogan soybean farming and Gepak Ijo and Anjasmara varieties and vice versa.

To answer the Objective 1, which is to analyze soybean farming income based on the variety of soybean varieties cultivated by farmers in Grobogan Regency, are as follows:
Farm income, analyzed using farm analysis.

TC = TVC + TFC
Information :
TC : Total cost (IDR)
TVC : Total variable cost (IDR)
TFC : Total fixed cost (IDR)

TR : (Qi. Hqi)
Information :
TR : Total revenue (IDR).

Qi : The quantity of soybean farming product (kg).
Hqi : Unit price of product (IDR/kg soybean).

I = TR – TC
Information :
I : Soybean farming income (IDR)
TR : Total Revenue or total farm revenue (IDR)
TC : Total Cost or total farm production cost (IDR)

To answer the Objective 2, which is to analyze the comparison of the profitability of soybean farming based on various varieties using farming profitability analysis, and Independent Sample t Test.

Farming Profitability Value = (I) : (TC) x 100%
Information:
I : Soybean farming income (IDR)
TC : Total Cost or total farm production cost (ITC)

The data that have been tested for normality is then compared using the Independent Sample t Test through the SPSS application or the following formula

$$t = \frac{X_1 - X_2}{\sqrt{\frac{(n_1-1)S_1^2+(n_2-1)S_2^2}{n_1+n_2-2}\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}$$

Information :
t : Statistical test value or t count
X1 : Profitability of soybean farming varieties one.
X2 : Profitability of soybean farming varieties two.
n1 : Number of respondents in soybean of variety one .
n2 : Number of respondents in soybean of varieties two.
S12 : Standard deviation of variety one profitability.
S22 : Standard deviation of varietiy two profitability.

Testing Criteria:

If the value of t count > t table then Ho is rejected and Hl is accepted, so that there is a significant difference between the profitability value of soybean farming of variety one and the value of profitability of soybean farming of variety two. Meanwhile, if the value of t count < t table, then Ho is accepted and Hl is rejected, so that there is no significant difference between the profitability value of soybean farming of variety one and the value of profitability of soybean farming of variety two. The t table value is obtained by looking at the value of the t distribution which is seen from the df value obtained from the t test results with a significance value of = 0.05.
Hypothesis

Ho : a = b, it is assumed that there is no difference in the profitability of soybean farming with varieties one and the profitability of soybean farming with varieties two.
Hl : a b, it is suspected that there is a difference in the profitability of soybean farming with varieties one and the profitability of soybean farming with varieties two.
Information :
a = Value of profitability of soybean farming varieties one (%/ha/season)
b = Value of profitability of soybean farming varieties two (%/ha/season)

RESULTS AND DISCUSSION

3.1. Grobogan Regency

Grobogan Regency is the second largest Regency in Central Java which has a land area of 197,586 ha consisting of 66,184 ha of agricultural land for rice fields, 99,674 non-rice fields agricultural land and 31,728 ha of non-agricultural land.

Grobogan Regency is one of the largest contributors to soybean production in Central Java. 37% of soybean production in Central Java comes from Grobogan Regency. Total soybean production in 2020 in Grobogan Regency reached 54,065 tons. Almost all districts in Grobogan Regency have soybean-producing land. The five largest soybean-producing districts are Pulokulon, Gabus, Kradenan, Ngaringan and Purwodadi District that are listed in Table 1.

From Table 1, it can be seen that the largest soybean area is in Pulokuolon District of 12,062 ha and the smallest is in Purwodadi District of 1,638 ha. The highest soybean production is in Pulokulon District as much as 26,532 tons and the least is in Purwodadi District as much as 3,089 tons. The highest productivity is in Pulokulon District at 2.19 tons and the smallest is in Ngaringan District at 1.75 tons. Soybean productivity is still low. this could be due to the inefficient use of factor inputs and capital constraints. That is inline with Celine *et al*. (2013) production is related to the use of inputs.

3.2. Characteristics of Respondents

Characteristics of respondents are presented based on age, education, main occupation, and experience in soybean farming as presented in Table 2.

From Table 2, it can be seen that the majority (48.75%) of soybean farmers in Grobogan Regency are 36-50 years old, followed by the age of 51-65 years as much as 32.50%. Most soybean farmers can be classified in the criteria of productive age. Productive age is the age at which a person is still able to work, seek information, and have maximum creativity in developing the farming he is engaged in. According to Soehyono *et al*. (2017), that the productive age is the population aged 15 to 64 years. The age factor affects the ability to receive information, new technology and creativity to develop a farm business.

As many as 53.75% of soybean farmers only have education up to elementary school and some even have not finished elementary school, while 33.75% have junior high school education, and the remaining 12.50% have senior high school education. The higher a person's level of education, the more knowledge and learning he gets. The level of education that has been achieved by a person can affect the level of knowledge, mindset, attitude and way of making decisions, especially in terms of doing farming. This result is in agreement with the findings of Dolaree *et al*. (2017), who found out that majority of the respondent have one form of formal education or another

The main occupation of soybean farmers in Grobogan Regency as much as 76.25% is as farmers, both as food crop farmers, plantation farmers, and breeders. While the remaining 20% are as traders, and 3.75% as Government Employee. As a farmer, of course, the rules regarding farming management (five farming) have been understood and understood by farmers, so that the internal obstacles that occur in doing soybean farming are relatively small.

The experience of farmers in carrying out soybean cultivation or farming is mostly 11-20 years as much as 35.00% and more than 30 years as much as 30.00%. According to Panggabean *et al.* (2016) that the experience and ability to farm that has been owned by farmers for a long time can be a way of life in meeting the needs and providing benefits to farmers in their farming activities. This is supported by the opinion of Amar (2010) that one of the factors that influence farmers' attitudes is personal experience. The level of success of a business is not only seen from how high the education that has been taken, but also can be seen from the experience that has been undertaken while trying. Soehyono *et al*. (2017) stated that the success of agro-industry and or agribusiness is not only determined by the level of education, but is also determined by business experience.

3.3. Soybean Farming Income

Income is remuneration from the work flow and farm management carried out by farmers as actors in farming activities. Production inputs are important production factors in soybean farming, which include: land, seeds,

fertilizers, labor, pesticides. The average area of soybean farming in Grobogan Regency is relatively narrow, namely 0.29 ha/farmer (0.30 ha for Grobogan , 0.28 ha for Gepak Ijo, and 0.29 ha for Anjasmara).
So that it can be said as one of the problem factors for the development of soybean farming. In addition, with a narrow area of land tenure, theoretically, it will not provide adequate income for farmers and their families if it is not supported by income from other business activities. Conversely, if the land area for soybean farming is higher, then of course there is a tendency to produce higher production and income (Supartama, 2013). The components and values of fixed costs of soybean farming in Grobogan Regency are presented in Table 3.

From Table 3, that the value of land rent is the largest fixed cost (85.63% in the Grobogan variety, 60.95% in the Gepak Ijo variety, and 87.40% in the Anjasmara variety), followed by depreciation costs for farming equipment and the value of Property tax. This shows how important the contribution of farmland to plant cultivation activities is. The value of the land also increases with time, the higher the price and the value of the rent. Furthermore, the components and variable cost values of soybean farming are presented in Table 4.

The average cost of seed production is the largest input expenditure compared to other inputs. This is in accordance with research from Katungi *et al*. (2011) that the average variable cost of producing bean seed was US$ 388 per ha. This is relatively higher compared to the national estimates of US$ 121 in 2004.

The use of fertilizers in soybean farming is very necessary to increase production, of course, while still paying attention to the dose and adjusted to the needs of the plant during its growth period (Supartama, 2013). The types of fertilizers and quantities allocated by farmers to soybean farming in Grobogan Regency on an average land area of 0.29 ha are very diverse, which include Urea, TSP, KCL, manure, NPK and liquid fertilizer. The use of fertilizers (mainly urea) based on the average quantity was 17.88 kg/0.30 ha for the Grobogan variety, 19.30 kg/0.28 ha for the Gepak Ijo variety, and 22.00 kg/0.29 ha on the Anjasmara variety is relatively low when compared to the recommendation from the Agricultural Service Institution, which is 200 kg/ha or 58 kg/average land area of 0.29 ha. However, the reality is that from the average yield, in addition to Urea fertilizer which contains nitrogen, farmers also use nitrogen fertilizer in other forms (manure, NPK fertilizer). This reflects that soybean farming has received positive attention from farmers, where one of the indicators is the variety of fertilizers allocated for their farming interests.

Pesticides in soybean farming are always needed considering the possibility of attacks by Plant Pest Organisms (PPO), such as armyworms, leaf roller caterpillars, stem borer flies, green and pod-sucking ladybugs, pod borer pests (Nuswantara *et al.*, 2016). Likewise, labor as a factor of production, that its existence is allocated for various activities, including land processing, fertilization, weeding, spraying, harvesting, handling/processing and marketing of soybean products. The allocation of labor for land processing and harvesting activities is the highest compared to other activities.

The largest variable cost for an average land area of 0.29 ha is labor costs for harvesting (21.68%) then labor costs for land processing (18.81%), the third largest variable cost is the cost of seeds soybean (15.28%). The use of labor in soybean farming activities is very dominant. The use of labor reflects that soybean farming, from land processing to harvesting activities, really needs the role of labor. The use of labor during the growing season to harvest and post-harvest requires an average of 17.81 men's working day/0.29 ha (equivalent to 61.40 men's working day/ha). This condition is different and lower than the results of research by Nuswantara *et al*. (2016), that the use of labor during the growing season to harvest and post-harvest requires an average of 119 men's working day/ha. While the minimal cost for purchasing liquid fertilizer, because in reality not all respondents or soybean farmers always use liquid fertilizer.

Revenue (revenue) is the value of the product generated from a business (Teken & Asnawi, 1985). Revenue means the amount of income obtained by farmers from the sale of their products, or in other words, valuing soybean farming production at a certain market price (total product value). The price used to assess the total production, depends on the forms of market faced by the producer concerned (Sumodiningrat & Iswara, 1987) and the size of the revenue depends on the quantity of the product produced and the price of the product per unit. These inline as well with Celine *et al*. (2013) that the gross income (revenue) was found to be an important factor in the profitability of soya.

As acceptance in this study is the value of soybean production in the form of ose which is the result of farming carried out by farmers. The amount of production and the value of revenue received by soybean farmers by variety is presented in Table 5.

The total production of soybean farming for the Grobogan variety was 677.85 kg/0.30 ha, the Gepak Ijo variety was 531.00 kg/0.28 ha, the Anjasmara variety was 465.00 kg/0.29 ha, and the average of the three varieties was 557.98 kg/0.29 ha (equivalent to 1,924.07 kg of soybean ose/ha). This production yield was higher than the results of research by Istiqomah and Krismawati (2015) in East Java Province, that the Grobogan variety produced 1,690 kg ose/ha, the Anjasmara variety produced 1,510 kg ose/ha, the Burangrang variety produced 1,780 kg ose/ha, and the Burangrang variety produced 1,780 kg ose/ha. kaba yields 1,850 kg ose/ha, and the willis variety yields 1,750 kg ose/ha. While the average selling price of the three varieties in Grobogan Regency is IDR . 7,916.67/kg ose, so that the total income obtained by soybean farmers is IDR. 4,387.914.00/0.29 ha. The price of soybean of the Grobogan variety is the lowest compared to other varieties. Low prices can also be caused by most farmers sell their soybean during the harvest season inspite of the lower unit price to meet their household demand (Ugbabe *et al*., 2017).

The average value of income and profitability of soybean farming on the Grobogan, Gepak Ijo, and Anjasmara varieties based on the land area of each variety is presented in Table 6.

Soybean farming income value of the Grobogan variety at the farmer level with a farm scale of 0.30 ha per season is IDR 2,465,917.19, which is equivalent to IDR 8,219,723.97/ha in one season, for soybeans of the Gepak Ijo variety, IDR 2,644. 191.27/0.28 ha is equivalent to IDR 9,443,540.25/ha, and in the Anjasmara variety, IDR 1,593,846.03/0.29 ha is equivalent to IDR 5,496,020.79/ha. While the profitability value was obtained at 100.06% on the Grobogan variety, 141.45% on the Gepak Ijo variety, and 74.96% on the Anjasmara variety. If observed, the area of land cultivated is relatively small, which is less than 0.5ha but the results of farming can provide profits and are profitable for farmers. This is inline with Munezero *et al*. (2018) result that average mean for gross farm revenues was 103,831Frws and the average mean of net farm income was 62,836Frws and cost benefits ratio was varied from 1.93 to 3.23 which indicated that soybean is profitable for small farmers. Besides that, the values of net income was 548.54 Dollar/ha. Thus, the profitability indicator was positive and revealed that the soybean production activity in northeastern Benin is economically profitable from the point of view of net income (Ifeoluwa *et al*., 2019)

Profitability is obtained from the profit sharing between farm income and total production costs in percent. Profitability can also be interpreted as the economic efficiency of farming, because it is the ability of production costs to generate farm income. The profitability result met with Roger *et al*. (2021) that soybean production in the commune of Tanguiéta was profitable with the value 118.0%.

Based on statistical analysis using the One Sample t Test, it can be seen that the average profitability of the Grobogan variety soybean farming is 100.06%, statistically not significantly different from that of the Gepak Ijo variety soybean by 141.45% (Sign 0.936 > 0.05). But in reality, when viewed from productivity, it can be seen that the Grobogan soybean variety has a higher productivity than the Gepak Ijo variety (2,259.83 kg/ha > 1,896.43 kg/ha). This is different and lower when compared to the results of research conducted by Balitkabi (2008), which states that the Grobogan variety has a productivity of 2.77 tons/ha while the Gepak Ijo variety has 2.20 tons/ha. The factor that makes productivity not optimal is that the intensification of soybean farming in Gorobogan Regency has not been carried out optimally by farmers. Major production constraints identified include: inadequate capital, soil intertility, poor extension services, high cost of inputs, inadequate marketing/storage facilities and high cost of transportation (Celine *et al*., 2013)

The high value of the average profitability of the Gepak Ijo soybean variety is due to the production cost per hectare which is much lower than the production cost of the Grobogan soybean variety (IDR 6,676,102.61/ha < IDR 8,214,416.03/ha).

The average profitability of the Grobogan variety soybean was 100.06%, statistically not significantly different from that of the Anjasmara variety of 74.96% (Sign 0.166 > 0.05). However, in absolute terms from the productivity point of view, it can be seen that the Grobogan variety has higher productivity than the Anjasmara soybean (2,259.83 kg/ha > 1,603.45 kg/ha). Meanwhile, when viewed from the production cost, the production cost of soybean variety Grobogan is slightly higher than the production cost of soybean variety Anjasmara (IDR

8,214,416.03/ha > IDR 7,331,565.41/ha). The result indicate that the differential yield of soybean was positive, which denoted that farmers managed to produce above the break-even level (profit zone) (Prasanna *et al*., 2021)

The average profitability of Gepak Ijo soybean variety was 141.45%, statistically significantly different from that of Anjasmara soybean variety of 74.96% (Sign 0.039 < 0.05). The factors that cause the difference in the profitability values are: (i) The value of fixed costs and variable costs per hectare of Gepak Ijo soybeans is much lower than that of Anjasmara soybeans; (ii) The productivity of the Gepak Ijo variety is higher than that of the Anjasmara variety.

CONCLUSION AND SUGGESTION

1.3. Conclusion

1. The value of farming income of the Grobogan variety at the farmer level with an average farm scale of 0.30 ha per season is IDR 2,465,917.19, which is equivalent to IDR 8,219,723.97/ha, for soybeans Gepakijo variety IDR 2,644,191.27/0,28 ha is equivalent to IDR 9,443,540.25/ha, and in the Anjasmara variety, IDR 1,593,846.03/0.29 ha is equivalent to IDR 5,496,020.79/ha.
2. Soybean farming profitability value of the Grobogan variety was 100.06% not significantly different from the Gepak Ijo variety by 141.45%, but also not significantly different from the Anjasmara variety by 74.96%. However, the profitability of soybean farming of the Gepak Ijo variety was significantly different from that of the Anjasmara variety.

1.4. Suggestion:

Based on the results of the study, it can be suggested to soybean farmers, that in choosing the ideal soybean varieties to be cultivated, it is not always based on the value of income, but the most important is based on the varieties preferred by consumers. Soybean variety Grobogan proved to be the most widely cultivated by farmers, and this is an indication that soybean variety Grobogan is the most preferred soybean by consumers.

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Table 1. Land Area and Soybean Production per District in Grobogan Regency at 2018

No.	Districts	Land area (ha)	Production (ton)	Productivity (ton)
1.	Pulokulon	12,062	26,532	2,19
2.	Gabus	2,742	5,688	2,07
3.	Kradenan	2,644	5,342	2,02
4.	Ngaringan	2,791	4,887	1,75
5.	Purwodadi	1,638	3,089	1,89

Source : Grobogan Regency in Figures from the Central Statistics Agency, 2019

Table 2. Characteristics of Soybean Farmers based on Soybean Varieties in Grobogan Regency.

Criteria	Number of Respondents/Variety (person)			Amount	
	Grobogan	Gepak Ijo	Anjasmara	(person)	(Percentage)
Age (year):					
16 – 35 year	6	3	-	9	11.25
36 - 50 year	25	5	9	39	48.75
51 - 65 year	23	2	1	26	32.50
≥ 66 year	6	-	-	6	7.50
Education (%):					
a. Primary School	36	4	3	43	53.75
b. Junior High School	19	5	3	27	33.75
c. High School	5	1	4	10	12.50
The Main Job:					
Farmer	46	7	8	61	76.25
Trader	11	3	2	16	20
Government Employees	3	-	-	3	3.75
Soyben Farming					

Experience:						
a.	≤ 10 year	9	3	3	15	18.75
b.	11 - 20 year	19	3	6	28	35.00
c.	21 - 30 year	10	3	-	13	16.25
d.	≥ 31 year	22	1	1	24	30.00

Table 3. Components and Fixed Cost Value of Soybean Farming in Various Variety in Grobogan Regency.

No.	Fixed Cost Component	Grobogan Soyben Variety	Gepak Ijo soyben Variety	Anjasmara Soyben Variety
1.	Land rent:			
	a. Land area (ha)	0.09	0.04	0.07
	b. Rent value (IDR/year	1,191,583.33	350,000.00	1,200,000.00
2.	Property tax:			
	a. Land area (ha)	0.21	0.24	0.22
	b. Tax value (IDR/year)	41,480.83	57,200.00	44,800.00
3.	Depreciation (IDR/year)	158,515.28	167,026.19	128,161.90
4.	Fixed Cost/year (IDR)	1.391,579.44	574,226.19	1,372,961.90
5.	Fixed Cost/season (IDR)	463,859.81	191,408.73	457,653.97

Table 4. Components and Values of Variable Costs of Soybean Farming of Various Variety in Grobogan Regency.

	Cost Component	Variable Costs of Soybean Farming in Each Variety (IDR)			Average Cost (IDR)
		Grobogan (0.30.ha)	Gepakijo (0.28 ha)	Anjasmara (0.29 ha)	(land area 0.29 ha)
1.	Seed	305,608.33	252,600.00	350,400.00	302,869.44
2.	Fertilizer	177,148.33	82,000.00	575,000.00	278,049.44
3.	Pesticide	101,083.33	97,300.00	101,600.00	99,994.44
4.	Land cultivation	1,206,399.99	1,246,000.00	1,141,000.00	1,197,800.00
5.	Credit interest	209,475.00	-	-	69,825.00
	Amount	1,999,714.98	1,677,900.00	2.168.000.00	1,948,538.33

Table 5. Total Production and Farmers Revenue of Soybean Variety in Grobogan Regency.

No.	Soyben Variety	Average of land area (ha)	Amount of Production (kg)	Price (IDR/kg)	Revenue (IDR)
1.	Grobogan	0.30	677.95	7,250.00	4,930,242.00
2.	Gepak Ijo	0.28	531.00	8,500.00	4,513,500.00
3.	Anjasmara	0.29	465.00	8,000.00	3,720,000.00
	Average	0.29	557.98	7,916.67	4,387,914.00

Table 6. Production Cost, Revenue, Income, and Profitability of Soybean Farming of Grobogan, Gepakijo, and Anjasmara Varieties in Grobogan Regency.

No.	Description	Var Grobogan	Var Gepak Ijo	Var Anjasmara
1.	Land area (ha)	0.30	0.28	0.29
2.	Fixed cost (IDR)	463,859.81	191,408.73	457,653.97
3.	Variable cost (IDR)	2,000,465.00	1,677,900.00	1,668,500.00
4.	Production cost (IDR)	2,464,324.81	1,869,308.73	2,126,153.97
5.	Revenue (IDR)	4,930,242.00	4,513,500.00	3,720,000.00
6.	Income (IDR)	2,465,917.19	2,644,191.27	1,593,846.03
7.	Profitability (%)	100.06	141.45	74.96