



Farmer Income Intercropping Palm Oil and Fruits in Delima Jaya Village Kerinci Kanan District Siak Regency

Latifa Siswati ¹, Asgami Putri ², and Eko Saputra ³

Department of Agribusiness, Faculty of Agriculture, Universitas Lancang Kuning, Pekanbaru, Indonesia, 28265
E-mail: latifasiswati@unilak.ac.id

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ABSTRACT

Research Objectives: 1. Types of Fruits found in Delima Jaya Village, Kerinci Kanan District, Siak Regency. 2. To find out the income of oil palm farmers with fruits in Delima Jaya Village, Kerinci Kanan District, Siak Regency. The method used is purposive sampling method with a population determined based on specific criteria, namely farmers who offer oil palm farming with fruits. Farmers who make respondents as 33 farmers who offer oil palm farming with Fruits. Analysis of the data used is using data analysis of farm income to determine the amount of farm income in 1 year. The results showed that the total income of oil palm farming was Rp. 102.458.417/year or Rp. 8.538.201/month. And the average income of fruit farming is Rp. 10.524.242/year or Rp. 877.020/Month, So the total income of oil palm and fruit farmers is Rp. 112.982.659/Year. Analysis of the R/CRatio (Revenue Cost Ratio) of the two commodities that are feasible to be cultivated, namely the R/C value of 4.33 for oil palm farming and 4.48 for fruit farming or > 1, meaning that the income of oil palm and fruit is Fruits in Delima Jaya Village, Kerinci Kanan District, Siak Regency are feasible to cultivate.

1. Introduction

The Oil palm (*Elaeis guineensis* Jacq) is one of the important plantation crops as a producer of vegetable oil for food production, as well as biofuel (biodiesel) production according to Teoh in (Afrizon, 2017). Oil palm is one of the important commodities in Riau Province, which can be seen from the vast area of oil palm plantations, which in 2017 covered 2,423,801 hectares. The regency with the largest oil palm plantation area is Rokan Hulu Regency, with an area of 407,479 hectares, followed by Kampar Regency with 396,760 hectares, and Siak Regency with an area of 324,216 hectares. The area with the smallest oil palm plantation in Riau Province is Pekanbaru City, with an area of 10,929 hectares (Badan Pusat Statistik Provinsi Riau, 2020).

Fruits are a food source that is very rich in vitamins and minerals, which have significant benefits for human health, development, and growth. For human health, they can relieve stress, especially for hard workers. There are 10 types of fruits that can reduce stress because they contain hormones and nutrients that have a calming effect on the body, one of which is avocado. Avocado contains high potassium, which is very useful for providing a calming effect, and it is rich in glutathione, a substance that can block the absorption of certain fats in the intestines. Additionally, avocado leaves can be used as traditional medicine, and they are reported to contain phytochemical components such as saponins,

tannins, flavonoids, and alkaloids through phytochemical tests. Moreover, research results (Sadwiyanti et al., 2019) show that avocado leaves contain antioxidants that can slow down oxidative stress.

The aim of the research is to determine the income of oil palm farmers with fruits and to identify the types of fruits available in Kampung Delima Jaya.

2. Method

This research was conducted in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency. The study was carried out using a survey method, and the technique for selecting respondent samples was purposive sampling, targeting farmers engaged in oil palm and fruit farming.

The research was conducted over a period of 3 months, starting from February 2022 to April 2022. This time was used to obtain data and information from farmers and relevant agencies. Before the research was conducted, a survey and interviews with local officials were carried out to understand the farming activities undertaken in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency.

2.1 Data Processing

1. Perform tabulation and analysis.
2. Farming analysis, including the analysis of farm receipts and income. Receipts are the result of

multiplying the amount of production produced by the selling price of the product (Septiawan, Dini Rochdiani, 2018). This is expressed in the following formula:

$$TR_1 = P_1 \times Q_1$$

$$TR_2 = P_2 \times Q_2$$

$$TR = TR_1 + TR_2$$

TR : Total revenue

TR₁ : Total Revenue of Oil Palm

TR₂ : Total Revenue of Fruits

P₁ : Unit Price per kg (oil palm)

P₂ : Unit Price per kg (fruits)

Q₁ : Production Obtained in an Enterprise (oil palm)

Q₂ : Production Obtained in an Enterprise (fruits)

2.2 Income

Income is the difference between revenue and all expenses incurred (Septiawan, Dini Rochdiani, 2018). This is expressed in the following formula.

$$\pi = TR - TC$$

π : Farm income

TR : Total revenue

TC : Total cost

2.3 Analysis of R/C Ratio

The analysis of R/C ratio is used to determine the relative profit expected from farming based on financial calculations over a specific period, where R/C indicates how much revenue is obtained as a benefit from each unit of currency spent (Mutmaidah and Sundari, 2017). The analysis of R/C is expressed in the following formula:

$$R/C = \frac{TR}{TC}$$

TR = Total Revenue

TC = Total Cost

With the criteria:

R/C ratio > 1 means the enterprise is feasible for development.

R/C ratio = 1 means the enterprise breaks even.

R/C ratio < 1 means the enterprise is not feasible for development.

3. Result

3.1 Farmers' Age

Age is one of the factors influencing the farmers' ability to manage their farming activities because age affects their physical capability to work. An overview

of the age characteristics of farmer respondents in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency, can be seen in the following table:

Table 1. Age of Farmer Respondents in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency

No	Farmers' Age (years)	Number of Individuals (people)	Percentage (%)
1.	18-40	5	15.15
2.	41-60	15	45.46
3.	>61	13	39.39
Total		33	100

Source: Processed Data 2022

In the table, it can be observed that nearly the majority of farmers who participated in this study are aged between 41 and 60 years, comprising 45.46 percent of the respondents. Farmers aged 21 to 40 years total 5 individuals or 15.15 percent, while those aged over 61 years amount to 13 individuals or 39.39 percent. The high percentage of farmers aged between 41 and 60 years indicates a dominance of experienced farmers.

3.2 Level of Education

"A higher level of education facilitates individuals or communities in absorbing information, and formal education shapes values, especially in accepting new things," (Basyit, Sutikno, and Dwiharto, 2020). For complete data on the level of education, please refer to the following table:

Table 2. Number of Respondents Based on Farmers' Education Level in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency

No	Education Level	Number of Individuals (people)	Percentage (%)
1.	Elementary School	15	45.46
2.	Junior High School	4	12.12
3.	Senior High School	14	42.42
Total		33	100

Source: Processed Data 2022

In Table 2, it can be seen that the level of formal education in Kampung Delima Jaya is predominantly elementary school education, with 15 individuals or 45.46 percent. The junior high school level has 4 individuals or 12.12 percent, while the high school level has 14 individuals or 42.42 percent.

Farmers with only basic education are less likely to consider the risks involved in making changes to their farming practices. In contrast, those with higher

education levels are more cautious in decision-making, taking into account the potential risks before proceeding.

3.3 Gender

Gender refers to the biological differences between males and females from birth. Field data indicates that among the 33 farmer families surveyed, the majority of respondents are male, with wives only assisting in the farming activities.

Table 3. Number of Respondents Based on Gender in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency

No.	Gender	Total	Percentage
1	Male	32	96.96%
2	Female	1	3.04%
	Total	33	100%

Source: Processed Data 2022

Based on the table above, it can be seen that there are 32 male respondents, accounting for 96.96 percent, while there is 1 female respondent, accounting for 3.04 percent (Erwin, Cholid, and Kristin, 2016).

3.4 Number of Dependents

The number of family dependents is fundamentally an obligation for the head of the family to provide for them from their income. Family dependents can come from both within and outside the farmer's family. This can be seen in Table 4.

Table 4. Number of Respondents Based on the Number of Farmer Dependents in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency

No	Number of Dependents	Number of people	Percentage
1.	0 – 2	17	48.58%
2.	3 – 4	18	51.42%
	Total	35	100%

Source: Processed Data 2022

Based on Table 4, it can be observed that the majority of respondents, totaling 17 individuals or 48.58 percent, have 0 to 2 family dependents. Meanwhile, 18 respondents, accounting for 51.42 percent, have 3 to 4 family dependents (Wilchan Robain, 2021).

3.5 Fixed Costs

Fixed costs refer to depreciation expenses, which are costs indirectly incurred by farmers for one month of production. Depreciation costs are calculated by multiplying the purchase value of equipment by the number of similar equipment units, then dividing by the economic life of the equipment.

Table 5. Average Fixed Costs of Oil Palm in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency

No.	Name of the Tool	Average Depreciation (Rp)
1	Parang	47.855
2	Dodos	65.270
3	Angkong	150.000
4	Tojok	24.000
5	Cangkul	60.270
6	Handsprayer	280.000
	Total	627.395

Source: Processed Data 2022

Based on Table 5, the fixed costs incurred by respondent farmers in oil palm farming average Rp 627,395 per year. Depreciation costs for equipment include: Parang with an average depreciation cost of Rp 47,855 per year, Dodos with an average depreciation cost of Rp 65,270 per year, Angkong with an average depreciation cost of Rp 150,000 per year, Tojok with an average depreciation cost of Rp 24,000 per year, Cangkul with an average depreciation cost of Rp 60,270 per year, and Handsprayer with an average depreciation cost of Rp 280,000 per year (Dompasa and Lolowang, 2014).

Table 6. Average Fixed Costs of Fruits in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency

No.	Name of the Tool	Average Depreciation (Rp)
1	Cangkul	62.727
2	Handsprayer	280.000
3	Parang	48.485
4	Angkong	150.000
	Total	541.212

Source: Processed Data 2022

Based on Table 5, the average fixed costs incurred by respondent farmers in fruit farming are Rp 17,860,005 per year, with an average of Rp 541,212 per year. Depreciation costs for equipment include: Cangkul with an average depreciation cost of Rp 62,727 per year, Handsprayer with an average depreciation cost of Rp 280,000 per year, Parang with an average depreciation cost of Rp 48,485 per year, and Angkong with an average depreciation cost of Rp 150,000 per year.

3.6 Variable Costs

Variable costs are expenses that vary based on production levels. In the case of variable costs incurred by respondent farmers, these include expenses for fertilizer use and labor costs (Purwanto, Hadayani, and Muis, 2015).

Table 7. Average Variable Costs of Oil Palm in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency

No. Variable Costs	Average Variable Costs (Rp)
1 Fertilizer	17.013.939
2 Labor	11.300.763
3 Pesticide	2.852.727

Source: Processed Data 2022

Based on Table 7, the average variable costs incurred by oil palm farmers include: NPK fertilizer with an average of Rp 5,806,666 per year, Organic fertilizer with an average of Rp 11,207,272 per year, totaling Rp 17,013,939 per year for fertilizer costs. Labor costs used for Fertilization average Rp 363,636 per year, Spraying with an average of Rp 2,060,000 per year, and Harvesting with an average of Rp 8,891,672 per year, totaling an overall average labor cost of Rp 10,403,490 per year. Additionally, the cost of Pesticides is Rp 2,852,727 per year. (Purwanto, Hadayani, and Muis, 2015)

Table 8. Average Variable Costs of Fruits in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency

No	Type of Plant	Fertilizer Cost	Labor Cost
1	Kelengkeng	20.900.000	5.630.000
2	Matoa	17.400.000	4.940.000
3	Jeruk Siam Madu	21.840.000	5.970.000
	Total	60.140.000	16.540.000
	Average Variable Costs	5.011.666	1.378.333

The average variable costs incurred by farmers growing different fruits are as follows:

Litchi Fruit (*Litchi Chinensis*) for Fertilizer Costs: The average is Rp 20,900,000 per year with labor costs of Rp 5,630,000 per year.

Matoa Fruit (*Pometia Pinnata*) for Fertilizer Costs: The average is Rp 17,400,000 per year with labor costs of Rp 4,940,000 per year.

Siam Honey Orange (*Citrus*) for Fertilizer Costs: The average is Rp 21,840,000 per year with labor costs of Rp 5,970,000 per year.

The total overall variable costs for fertilizer are Rp 60,140,000 per year and for labor are Rp 16,540,000 per year.

3.7 Revenue

Revenue for farmers from both oil palm and fruits is derived from the selling price multiplied by the production yield, as shown in the following table:

Table 9. Average Revenue Between Oil Palm and Fruits in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency.

No.	Types of Plants	Income (Rp)/ Year	Income (Rp)/ Month
1	Oil Palm	102.458.417	8.538.201
2	Fruits	10.524.242	877.020
	Total	112.982.659	9.415.221

Source: Processed Data 2022

As shown in Table 9, the total average revenue between oil palm and fruits is Rp 146,526,151 per year or Rp 12,210,512 per month.

3.8 Income

Income is the difference between revenue and total expenses or production costs. Income is also a measure of profit and an important factor in assessing the success of an enterprise based on its earnings (Andriani, 2017).

Table 10. Average Income Between Oil Palm and Fruits in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency.

No.	Types of Plants	Income (Rp)/ Year	Income (Rp)/ Month
1	Oil Palm	102.458.417	8.538.201
2	Fruits	10.524.242	877.020
	Total	112.982.659	9.415.221

Source: Processed Data 2022

Based on the table above, the income of farmers from oil palm and fruits in Kampung Delima Jaya, Kerinci Kanan District, Siak Regency is Rp 102,458,417 + Rp 10,524,242 = Rp 112,982,659. Therefore, the total income of farmers from oil palm and fruits in Kampung Delima Jaya is Rp 112,982,659 per year or Rp 9,415,221 per month (Ending Duriah, 2018).

4. Conclusions

Based on the findings of the research conducted, the following conclusions can be drawn:

1. The types of fruit farming found in Kampung Delima Jaya are longan, Matoa, and Honey Tangerine.
2. The research results show that the total income from oil palm farming is Rp. 102,458,417 per year or Rp. 8,538,201 per month. The average income from fruit farming is Rp. 877,020 per year or Rp. 1,787,247 per month. Therefore, the total combined income from oil palm and fruit farming is Rp. 112,982,659 per year. In Kampung Delima Jaya, there are 33 fruit farmers,

including 10 farmers cultivating Matoa, 11 farmers cultivating longan, and 12 farmers cultivating Honey Tangerine.

Kampung Delima Jaya in Kerinci Kanan Sub-district, Siak, can serve as an example of motivation for oil palm and fruit farmers because through efforts to utilize idle land, it can enhance the economic income of the community.

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