

**Keragaan Pendapatan Usaha Tani Jagung Manis (Pionir) dan Jagung Hibrida (Bisi-2) di Desa Pukdale Kecamatan Kupang Timur Kabupaten Kupang****Revenue Performance of Sweet Corn (Pioneers) and Hybrid Corn (Bisi-2) Farmers in Pukdale Village, Kupang Timur District, Kupang Regency**

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**ABSTRACT**

Limited land owned by farmers which in the same land farmers grow 2 types of maize with different time, namely sweet corn and hybrid corn within 1 year. In the dry season farmers grow hybrid corn and in the rainy season farmers grow sweet corn. Farmers capital for purchase production facilities, especially for the purchase of seeds, fertilizers and medicines whose prices are getting higher and higher, in addition to the price of corn and hybrid corn which always increases fluctuations, and in terms of cost and time of hybrid corn is higher than sweet corn. This will have an impact on income obtained by farmers. Sampling in this study was carried out by proportional random sampling. Determination of a large sample for participation of smaller than 10000 can use the Slovin formula (Soekidjo, 2003) with the formula  $n = \frac{N}{1+N(d^2)}$ , to answer the objective, it can be used an analysis using total corn farming with total corn farming at one planting season, and to answer the purpose of both methods used using Gross Profit Margin. The results showed that the total income of hybrid maize and sweet corn in the research location was IDR.49.425.000 with an average income per respondent of IDR.852.155 / season and the average income per hectare was IDR. 1.433.855 / season. While the total income of sweet corn farming obtained by respondent farmers is IDR.55.383.000 with an average income per respondent is IDR. 1.065.057 / season and the average income per Ha is IDR. 3.018.147 / season. The percentage of gross profit margin shows that the percentage of sweet corn of 20.63% is received within 2 months and while hybrid corn is 23.20% received within 3 months.

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Key Words: Hybrid Corn (Bisi-2), Sweet Corn (Pioneers), Revenue Performance

**INTRODUCTION**

Corn is one of the staple foods that are quite popular, especially for the NTT community. The local food of the NTT community besides rice is corn. This is evidenced by the diverse types of staple foods whose main raw material is corn. Corn commodity is a mainstay commodity of

Nusa Tenggara Timur Province. In terms of quality, it has advantages over other regional corn commodities, namely sweeter taste and large size.

Most of NTT people work as farmers scattered in various districts where agriculture is superior. One of them is

Kupang Regency, especially Pukdale Village, Kupang Timur District. The number of corn farmers makes a comparison between farmers' income, there are 2 types of corn cultivated by farmers in the village of Pukdale, namely corn sold young and corn sold in the form of dry shelled. Corn which is sold in a young age one of it is sweet-corn while the corn sold in the form of the dry shell is regular corn.

Pukdale Village, Kupang Timur District, Kupang Regency, most farmers plant corn, the natural conditions in the area are very supportive for corn growth. In its farming activities, it requires proper cultivation process not only using superior seeds, but the amount of fertilizer applied must also not exceed the dose. Hence many factors affect the success of corn production. Broadly speaking, the exploitation of land in Pukdale Village, Kupang Timur District is dominated by dry land in which the community grows corn to be marketed.

The limited land owned by farmers which on the same land farmers planted 2 types of corn with different times, namely sweet corn and hybrid corn within one year. In the dry season, farmers grow Hybrid corn and at the beginning of the rainy season farmers grow Sweet corn. Furthermore, farmer experience lack of capital to purchase production facilities, especially for the purchase of seeds, fertilizers and medicines whose prices are getting higher and higher. On the other hand, the prices of sweet corn and hybrid corn are always experiencing fluctuations. In the initial survey for sweet corn, the prevailing market price was IDR. 1000; per 1 unit (local unit) and on hybrid

corn the price prevailing in the market is IDR.5000; per kilogram (5-6 pieces). Prices on both corns always fluctuate depending on demand and supply that occur in the market.

Farmers in Pukdale Village plant Hybrid corn in the dry season and during harvest the supply of corn in the market increases because of farmers in Pukdale Village harvest corn simultaneously. This also happened to sweet corn at the beginning of the rainy season. In terms of cost and time, ordinary corn is higher than sweet corn. This will have an impact on the income earned by farmers. Based on the above background, it is necessary to have a research to find out how much the income of sweet corn and hybrid corn farming is, and how is the income difference between the sweet corn and hybrid corn farming.

## RESEARCH METHODS

### Method for Location and Time Determination

The research site was Pukdale Village, Kupang Timur District, Kupang Regency. This research was conducted in January-September 2019. Determination of the research location was done purposively with the consideration that all residents work as farmers of sweet corn and hybrid corn, and one of the leading commodities is sweet corn and hybrid corn.

### Respondent Determination Methods

The population in this research was farmers who farmed Sweet Corn and Hybrid Corn in Pukdale Village and were part of the farmer group. Hence the population in this

study is 110 persons of Sweet corn farmers and 138 persons of Hybrid corn farmers.

Sampling in this research was carried out by proportional random sampling or all individuals in the population either individually or collectively were given the same opportunity to be selected as sample members. Determination of the sample size for a small population or smaller than 10000 can use the Slovin formula (Soekidjo, 2003).

**Method of collecting data**

Data collection techniques in this research include primary data and secondary data. Primary data obtained by observation and direct interviews with respondents to obtain information such as age, education, the experience of farming, the number of dependents in family members and others informations that can support. Secondary data were obtained from related institutions such as the Village Head Office, Agriculture Office and BPS Office.

**Data analysis method**

The data that has been collected is tabulated, then analyzed with the following process:

1. To answer the first objective regarding the level of income of sweet corn and hybrid corn farming, it can be analyzed using total corn farming income by total corn farming expenditure at one planting season (Soekartawi, 1995), with the following formula:

- a. Total Cost

$$TC = TFC + TVC$$

Description:

TC : Total Cost of Corn Farming (IDR /Ha / MT)

TFC: Fixed Cost for Corn Farming (IDR / Ha / MT)

TVC = Variable Cost of Corn Farming (IDR / Ha / MT)

- b. Revenue

$$TR = Y \cdot Py$$

Description:

TR: Total Revenue of Total Corn Farm (IDR / Ha / MT)

Y: Total Production (Quantity) of Corn Farming (IDR / Ha / MT)

Py: Production Price of Farming

- c. Income

$$Pd = TR - TC$$

Description:

TR: Total Revenue of Total Corn Farm (IDR / Ha / MT)

TC : Total Cost of Corn Farming (IDR /Ha / MT)

Pd: Maize Farming Income (IDR / Ha / MT)

2. To answer the second goal, which is to find out the differences in income between sweet corn and hybrid corn farming, the Gross Profit Margin (Sawir 2009: 18) approach is used, with the following formula:

$$\text{Gross Profit} = \text{Corn Sales Revenue} - \text{Cost of corn sales}$$

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Corn Sales Revenue}}$$

**Description:**

- ✓ The cost of corn is the entire cost incurred in producing goods sold or the cost of goods sold.
- ✓ Sales revenue is the amount of money received from the sale of corn.

**RESULTS AND DISCUSSION****Analysis of Revenue of Sweet Corn and Hybrid Corn Farming**

Based on the results of the study the average area of hybrid corn land is 0.59 Ha and the average selling price of hybrid corn is IDR. 4,000/Kg and the average productivity of hybrid corn is 2.599 kg, while the sweet corn average land area is 0.35 Ha and the average selling price is IDR. 4,000/kg and the average productivity of sweet corn is 3.656 kg.

Farm income is obtained from the difference between revenue and production costs incurred by farmers in the planting season 2018. Based on the results of the

analysis it is known that the total average income of hybrid corn respondents is IDR. 844,984/Season and the average income per Ha is IDR. 1,363,604/Season. While the total average income of respondents from sweet corn farming are IDR. 1,064,580/Season and the average income per Ha is IDR. 3,018,147/Season.

In this research, the fixed costs are the costs for land renting, but at the research site, the farmers who rent the land are only a small portion hence it is not calculated, and to calculate the gross profit margin only variable costs is calculated. Based on the results of the analysis, respondents' income from hybrid corn and sweet corn from which the average farm income of hybrid corn farmers is IDR. 844,984 per planting season while the average sweet corn farming income of farmers is IDR.1,064,580 per planting season. Based on the analysis results, the differences in income from the two types of hybrid corn and sweet corn farming, it is known that the income received by respondents of sweet corn farmer is higher.

Table 1. Revenue, Costs and Income of Sweet Corn Business in Pukdale Village, Kupang Timur District, Kupang Regency, 2019

No	Description	Average / respondent (Rp)	Average / Ha(Rp)
<b>1</b>	<b>Revenue</b>	<b>5.161.692</b>	<b>14.625.138</b>
<b>2</b>	<b>Variable Cost (VC)</b>		
	-Seed	831.73	2.356.948
	-Pesticide	81.826	231.880
	-Fertilizer	336.346	953.134
	- Irrigation	473.846	1.342.779
	- Land Processing	529.326	1.500.000
	- Labor	1.844.038	10.400.490
	Amount	<b>4.047.112</b>	<b>11.60.8991</b>
	<b>Total cost</b>	<b>4.097.112</b>	<b>11.608.991</b>
	<b>Income</b>	<b>1.064.580</b>	<b>3.016.147</b>

(Sources: Primary Data Primer, analyzed in 2019)

Table 1. Revenue, Costs and Income of Hybrid Corn Business in Pukdale Village, Kupang Timur District, Kupang Regency, 2019

No	Description	Average / respondent (Rp)	Average / Ha(Rp)
<b>1</b>	<b>Revenue</b>	<b>3.672.414</b>	<b>14.625.138</b>
<b>2</b>	<b>Variable Cost (VC)</b>		
	-Seeds	136.724	230.055
	-Pesticide	169.069	272.701
	-Fertilizer	395.1517	665.506
	- Irrigation	450.171	757.470
	-Labor	1.675.948	288.995
	Amount	<b>2.827.430</b>	<b>4.815.682</b>
	<b>Total Cost</b>	<b>2.827.430</b>	<b>4.815.683</b>
	<b>Income</b>	<b>844.984</b>	<b>1.363.604</b>

(Sources: Primary Data Primer, analyzed in 2019)

**Income Difference**

To identify the difference in income between hybrid corn and sweet corn farming, Gross Profit Margin is used. Gross Profit Margin is an important indicator because it can provide information to business owners about how profitable farming activities that are carried out. According to Werner R. Murhadi (2013: 63) Gross Profit Margin is a description of the percentage of gross profit generated by each farm income, hence the higher the Gross Profit Margin the better the farm operation.

The analysis results of the data above showed that the revenue of hybrid corn is IDR. 3,672,692 and the costs sacrificed for hybrid corn farming are IDR. 2,827,430 and the gross profit obtained by hybrid corn farming is IDR.844,984, while for sweet corn the revenue is IDR. 5,161,692 and sweet corn farming costs is IDR.4,097,112, hence the gross profit earned is IDR. 1,064,580.

**Margin percentage analysis results**

Gross profit showed that the gross profit of hybrid corn farming is IDR. 844,984 and farming costs amounting to IDR. 2,827,430, the gross profit margin of hybrid corn per planting season is 29.88%. This means that from the total revenue obtained from hybrid corn farming in the amount of IDR. 3,672,414, the management cost of the farm is 29.88% which can be taken as profit from hybrid corn farming.

Sweet corn farming from the analysis of gross profit margin showed that the gross profit of sweet corn farming is IDR. 1,064,580 and variable costs are IDR. 4,096,112, the gross profit margin of sweet corn per planting season is 25.98%. This means that from the total revenue obtained by sweet corn farming of IDR. 5,161,692 the management of farming costs is 25.98% which can be taken as profits from sweet corn farming.

**Table 3. Calculation of Gross Profit of Hybrid Corn and Sweet Corn Farming in Pukdale Village, Kupang Timur District, Kupang Regency in 2019**

Description	Revenue (IDR)	Variable cost (IDR)	Gross Profit (IDR)
Hybrid Corn	3.672.692	2.827.430	844.984
Sweet Corn	5.161.692	4.097.112	1.064.580

(Source: Primary Data Primer, analyzed in 2019)

**Table 4. Calculation of Gross Profit Margin in Hybrid Corn and Sweet Corn Farming in Pukdale Village, Kupang Timur District, Kupang Regency in 2019**

Description	Gross Profit (IDR)	Variable Cost (IDR)	Gross Profit Margin (%)
Hybrid Corn	844.984	2.827.430	29,88
Sweet Corn	1.064.580	4.097.112	25,98

(Source: Primary Data, analyzed in 2019)

## CONCLUSIONS AND SUGGESTION

### Conclusion

The average total income of hybrid corn and sweet corn farming in the research location is IDR. 844,984/Season and the average income per Ha are IDR. 1,363,604/Season. While the total average income of sweet corn farming obtained by farmers is IDR. 1,064,580/Season and the average income per Ha are IDR. 3,016,147/Season.

The percentage of gross profit margin showed that the percentage of sweet corn of 25.98% is received within 2 months while hybrid corn is 29.88% received within 3 months.

### Suggestion

To increase farm income of corn farmers in Pukdale Village, farmers should expand the area of sweet corn farming which is seen as more profitable and expand the marketing area of corn. And the seeds used every planting season should be replaced with new seeds until the results obtained are optimal.

To minimize costs incurred for hybrid corn farming, farmers should improve management of hybrid corn farming, both from planning to marketing of hybrid corn.

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