

Analysis of Red Onion Supply (*Allium Ascalonicum L.*) In Sumenep District

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ABSTRACT

This study was conducted to determine the factors that affect the supply of onion, such as onion price factors, prices of onion seeds, the total acreage of production factors, and the supply elasticity of onion. Location research done by purposive, although not Sumenep onion production center in East Java, but Sumenep has the potential for the development of onion production with planting area 429.99 ha, with production quantities 5258.89 tons and productivity levels 12, 23 tons/ha. The method used in this research is quantitative data analysis. Based on the test results simultaneously (together) this indicates that the observed variables are the variable price of onion (Hb), the variable cost of seed onions (HBB), variable production number (Prod), and variable acreage (La) together are very significant to the offer of onion (Qs) in Sumenep. For the partial test results (one by one), the variable price of onion (Hb) is very significant to the offer of onion (Qs) at an error rate of 5% and a rate of 1% mistake. As for the variable production number (Prod) individually at 5% significant real impact on red onions deals (Qs) in Sumenep. For the variable price of seed onions (HBB) and variable acreage (La) did not significantly affect red onion deals (Qs) in Sumenep. Based on the results of the analysis of the supply elasticity of onion in Sumenep of 2018 s / d in 2019 is equal to 0,

Keywords: Special Analysis, Shallots, Sumenep

1. INTRODUCTION

Agriculture is one sector that is strategic within the economic development of Indonesia. This is because most of the Indonesian people who depend on agriculture. Based on data from the Central Statistics Agency (BPS) in 2018, amounting to 40.3 percent of Indonesia's population are dependent on the sector.

In general, the agricultural sector consists of several sub-sectors, namely food subsector, horticulture, and gardening. One reasonably necessary subsector is horticulture. Horticulture includes vegetables, fruits, ornamental plants, and medicinal or drugs. Shallots (*Allium Ascalonicum L.*) is one of the strategic horticultural commodities in Indonesia because of its function as the main ingredient basic spices of Indonesian cuisine. Red onion is a vegetable that is most used in the entire menu of food in Indonesia. Therefore, the demand for onion is very high and even tends to increase from year to year. Red onion consumption level per capita in Indonesia ranges from 2,175 kg per year.

Onion production centers in Indonesia are dominated by the island of Java that is equal to 73 percent of total production in Indonesia. Region production centers in Java consists of West Java area of 12 979 hectares which includes Kuningan, Cirebon and Majalengka, Central Java area of 34 966 ha, including Brebes, Tegal, and Pemalang, DI Yogyakarta include Bantul, as well as the East Java area of 27 480 hectares, covering Nganjuk, Probolinggo, and Sumenep. In 2008, East Java was the second largest production center after Central Java, with total production, reached 235 503 tonnes (farmer Ray, 2008).

Sumenep regency is one of the giant onion quite high in East Java. It can be seen from the total production of onion in Sumenep, reaching 5258.9 tonnes with productivity of 12.23 tonnes/ha, so Sumenep is one that has an essential role in meeting the needs of onion in East Java (Disperta Sumenep, 2018).

The rate of increase in the production of onion in Sumenep which indicates their fluctuating factors affecting the production activities (Hariyadi, Huda, Ali, & Wandik, 2019). The existence of these factors leads to the level of output of onion potentially decreasing. Meanwhile, the size of a commodity deal is influenced by the amount produced. In addition to the aspects of production, the level of supply of a commodity is also influenced by the price level (Nicholson, 1991).

Above the description of the problem, this research considered necessary to be done to determine the factors that affect the supply of onion, such as onion price factors, prices of onion seeds, the total acreage of production factors and the supply elasticity of onion. The study was conducted in Sumenep.

2. RESEARCH METHODS

In this study conducted in Sumenep. Determining the location of this research was done intentionally (purposive), with consideration of Sumenep, not onion production center in East Java, and as an alternative to tobacco, which during this period in Sumenep tobacco farmers suffered continual losses.

The population in this study is an onion farmer, population been intentionally (purposive) that the District and Sub-district Pasongsongan Rubaru with the consideration that both the sub-district is the District centers in Sumenep. Furthermore, from each subdistrict been intentionally (purposive) Villages Rajun center of the Village and the Village Mandala Pasongsongan Subdistrict Subdistrict Rubaru.

Methods of data analysis used in this research are quantitative data analysis. This method is used to make it easier to analyze various destinations with the confidence level that can be justified.

To test the hypothesis about the factors that influence red onion deals in Sumenep, using econometric statistical analysis (regression). Multiple regression model proposed is as follows (Supranto, 2004):

$$Y = S_0 + S_1 X_1 + S_2 X_2 + \dots + S_k X_k + V_i$$

Where :

Y: Qs: Offer (Kg)

S_0 : Constants

S_1, \dots, S_k : Partial regression coefficient

X_1 Hb: Prices of onion (USD / kg)

X_2 : HBB: Onion seed prices (USD / kg)

X_3 : Prod: Total production (kg)

X_4 : La: The area (Ha)

V : Error

Then, from the results of multiple linear regression analysis, it can be analyzed with the R2 test, F test (F-test), and T-test (t-test).

3. RESEARCH RESULT

From the research that has been done, it can be explained as follows:

3.1 Multiple Linear Regression Analysis

a. R2 test

To determine the accuracy of the model used coefficient R2. As for knowing donations of more than two independent variables, we used adjusted R2. From the results obtained by analysis of the value of R2 (coefficient of determination) of 0.998 and the value of adjusted R2 of 0.998. Therefore, based on the value of adjusted R2 can be said that 99.8% of the variation of red onion deals (Qs) is affected by the variable price of onion (Hb), the variable cost of seed onions (HBB), variable production number (Prod), and variable acreage (La), only 0.2% were influenced by variations variables included in the model, so this research deserves to be continued.

b. test F

Hypothesis testing regression coefficients simultaneously (together) on a multiple regression necessarily to show the sources of variation that are components of the total variation model. The statistical test used is the F test with F test analysis results can be seen in the table below:

Table 1. Results of Simultaneous Test (Together) with Ordinary Least Square method

No.	Model	Sum of Squares	df	mean Square	F count	F table 1%	F table 5%
1	Regression	1,709	4	4272	7,922	3695	2,546
2	residual	285785.436	53	5392.178			
Total		1712	57				

Source: primary data

From the analysis of the F test obtained by value Fhitung 7,922 and a degree of freedom $k = 4$ and $n - k - 1 = 58 - 4 - 1 = 53$ with a significance value of 0.000. So it can be seen that the value of F count = 7,922 is far greater than the value of F table (0.05; 53) = 2,546 and F table (0.01; 53) = 3,695 and its significance = 0.000 smaller than $\alpha = 0.05$. This shows that the variables observed were variable prices of onion (Hb), the variable price of seed onions (HBB), variable production number (Prod), and variable acreage (La) jointly highly significant effect on deals onions (Qs) in Sumenep.

c. t-test

To determine the effect of each variable that affects the red onion deals (Qs) in Sumenep can be used the t-test. The results of the analysis can be seen in the following table:

Table 2. Results of Analysis of Factors Affecting Quote Shallots In Sumenep

No.	variables	Regression Coefficients	t	t table 1%	t table 5%
1	Onion prices	2,616	7.762 **	2668	
2	Onion Seed Prices	-0.020	-0,793ns		
3	Total Production	.598	2.471 *		2004
4	Total area	5480.764	1,559ns		
5	constants	-25,418.739	-7.132		

Source: primary data

According to the table above can be explained that individually variable prices of onion (Hb) are very significant to the offer of onion (Qs) at an error rate of 5% and a rate of 1%

mistake. This is demonstrated by the significant value = 0.000 and t value variable prices of onion (Hb) = 7.762 is much larger than t table (0.05; 55) = 2.004 and (0.01; 55) = 2,668. It shows that the error rate of 5% and 1% variable prices of onion (Hb) very significant effect on red onions deals (Qs) in Sumenep.

As for the variable production number (Prod) individually at 5% significant real impact on red onions deals (Qs) in Sumenep. It is based on the results of the analysis showed that the error rate of 5% variable production number (Prod) has a significant value of 0.017 and the value of t = 2.471 is greater than t table (0.05; 55) = 2.004. While the error rate of 1% t value variable production number (Prod) = 2.471 is smaller than t table (0.01; 55) = 2,668. So it can be said to be variable production number (Prod) only significantly affect red onion deals (Qs) at Sumenep districts.

The variable price of seed onions (HBB) and variable acreage (La) did not significantly affect red onion deals (Qs) in Sumenep. The t value of each variable indicates this is smaller than the value t tables used. T value variable price of seed onions (HBB) = -0793 and variable acreage (La) = 1,559 less than the value t tables used (0.05; 55) = 2004. This shows that the error rate of 5 %, the variable price of seed onions (HBB), and variable acreage (La) did not significantly affect the supply (Qs) of onion in Sumenep.

1. Classic Assumption Testing

The test results with the classical assumption of the ordinary least square method (OLS) linear regression against the factors that affect the supply of onion in Sumenep shows that there is no indication of symptoms violation classical assumption, that there are no issues heteroskedstisitas, multicollinearity, and autocorrelation. The value of the correlation matrix (matrix correlations) between variables in the test did not reach 0.80 for the multicollinearity test, and the value of the Durbin-Watson test (DW-test) is higher than the cost of du on statistics auto correlation d for the test.

2. Elasticity of Supply Shallots in Sumenep

Supply elasticity is the ratio between the percentage change in the number of items offered to the percentage change in price, with the understanding and the assumption that the price is the only factor of the cause and other factors held constant. The law of supply explains that the higher the cost of an item, the more the number of the goods offered, conversely the lower the price of a topic, the lower the number of products on offer. The existence of the sensitivity of price changes significantly affects the number of goods on offer that can be seen from the elasticity of supply.

Table 3. Elasticity of Supply Shallots In Sumenep

No.	variable	2018	2019	Elasticity
1	Q (Quote)	4.580	4,542	0.998
2	H (Price)	9.928	9822	

Source: primary data

Based on the results of the analysis of the supply elasticity of onion in Sumenep of 2018 s / d in 2019 is equal to 0.998 which means that the flexibility is less than one ($E_s < 1$) so that the nature of the offer of onion (Qs) in Sumenep is inelastic. This means that changes in the offers less sensitive to price changes. In other words, the number of onion that is offered is not vulnerable to price changes. So although onion prices rise or fall, the number of onion deals in Sumenep not unduly influenced price changes.

The above table shows that with the high prices of onion in the previous year, which amounted to Rp. 9.928 / Kg, The initiative of farmers to plant onions rose with expectations onion production amount increases so that the onion has to offer will also increase. Manon, in fact, with the growing initiative of farmers growing onions, the number of onion production showed no change. As a result, the number of red onion offered no change. That is because, at the time of rainfall in Sumenep, relatively high so that pests and diseases quickly appear, so farmers have problems managing. This concurs with Mubyarto (1995), stating that the raising and lowering of agricultural production much more complicated than raising or lowering industrial products, which are all made in the factory and are not directly tied to natural factors.

It also concurs with the opinion Alfianto Hendry (2007), in his research, which aims to analyze the factors that affect the supply and the supply elasticity of onion in Karanganyar stated that the supply elasticity of onion in Karanganyar district is inelastic.

4. CONCLUSION

For the partial test results (one by one), the variable price of onion (Hb) is very significant to the offer of onion (Qs) at an error rate of 5% and a rate of 1% mistake. As for the variable production number (Prod) individually at 5% significant real impact on red onions deals (Qs) in Sumenep. For the variable price of seed onions (HBB) and variable acreage (La) did not significantly affect red onion deals (Qs) in Sumenep. Based on the results of the analysis of the supply elasticity of onion in Sumenep of 2018 s / d in 2019 is equal to 0,

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