MARKET STRUCTURE AND INCOME OF CARROT FARMING IN SUMBERGONDO VILLAGE, BUMIAJI DISTRICT, BATUCITY

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Florentino Davor Syuker[1], Ana Arifatus Sa'diyah[2]*, Ayu Wulandari Priyambodo[3]
Program Studi Agribisnis, Fakultas Pertanian, Universitas Tribhuwana Tungga Dewi, email:
florentinodavorsyuker@gmail.com
Program Studi Agribisnis, Fakultas Pertanian, Universitas Tribhuwana Tungga Dewi, email:
ana.arifatus@unitri.ac.id
Program Studi Agribisnis, Fakultas Pertanian, Universitas Tribhuwana Tungga Dewi, email:
ayu.wulandari@unitri.ac.id
*Korespondensi Penulis

Abstract. Carrot is a subtropical vegetable commodity that has the potential to be developed, especially in Indonesia. This study aims to analyze the structure of the carrot commodity market and to analyze the income of carrot farming. The research was conducted in Sumbergonodo Village, Bumi Aji District, Batu City. Market structure analysis was carried out using the Concentration Ratio for Biggest Four (CR4), Hirschman Herfindahl Index, Rosenbluth Index, Gini Coefficient. Meanwhile, income analysis is carried out by analyzing the structure of costs and income. The results show that the market structure that occurs tends to lead to imperfect competition markets because the values of the four analyzes used are CR4 (Concentration Ratio for Biggest Four) Hirschman Herfindahl Index, Rosenbluth Index, and Gini Coefficient, giving an illustration of the value of market share having a dominant value leads to an imperfect competitive market. In addition, the results of the study also show that carrot farming is profitable with a profit value of RP. 14,146,937/ha.

Keywords: Market Structure; Income; Carrot

INTRODUCTION

Carrot is a subtropical vegetable commodity that has the potential to be developed, especially in Indonesia. Carrots are a type of plant that has very high economic value, its appeal lies in its high vitamin A content (Singh, M. N., Srivastava, R., & Yadav, 2021); (Nagraj, G. S., Jaiswal, S., Harper N., & Jaiswal, A. K. , 2020). According to (Luby, C. H., Maeda, H. A., & Goldman, I. L., 2014); (Li, X., Zhang, Y., Yuan, Y., Sun, Y., Qin, Y., Deng, Z., & Li, H., 2016), Carrots are famous for their high content of Vitamin A. In addition to vitamin A, carrots also contain other vitamins such as vitamin B and vitamin E. The composition of the nutrients contained in carrots have benefits for the entire human body. Carrots contain Vitamin A in very high amounts so it is very useful, especially for maintaining eye health. The content of compounds in carrots in the form of beta-carotene, lycopene has the function of neutralizing free radicals which often cause dangerous diseases such as cancer, especially prostate cancer in men.

Carrots have long been developed in various regions, including in Bumiaji District, Batu City. Seeing the potential of the carrot crop, this farming should be profitable. However, (Baladina, N., 2012) stated that the large amount of carrot production and consumption did not reflect efficient marketing. In this regard, increasing farmers' income needs to be balanced with a marketing system that benefits farmers. This is important considering that the welfare level of farmers in general continues to decline in line with the classic problems in it, such as the inconsistent quantity and quality of products produced, low productivity, and long marketing chains with market conditions that have not been well organized, all of which then becomes part and dilemma of an agribusiness activity

(Sundari, M. T., 2011) stated that carrots are a potential horticultural product to be developed. Carrots have long been developed in various regions, including in Karanganyar Regency. According to data from BPS in 2005, carrot farming is a farm that produces the highest vegetable commodities compared to other vegetable farming in Karanganyar Regency. Carrot production reached 85.57 Kw higher when compared to cabbage (20.88 Kw), mustard greens (15.65 Kw) and green beans (9.47 Kw),

although the productivity of carrots was lower (164.55 Kw/Ha) if compared to the productivity of cabbage which reached 213.06 Kw/Ha (BPS Karanganyar, 2005). In carrot farming, farmers generally use production factors excessively in the hope of obtaining maximum results. Even though the excessive use of production factors will increase production costs which will ultimately reduce farming income if the additional costs incurred are higher than revenues. This study aims to analyze the market structure and analyze the income of carrots farming in Sumbergondo Village, Bumi Aji District, Batu City.

METHODS
2.1 Study Area
This research was carried out in Sumbergondo Village, Bumiaji District, Batu City. The selection of research locations was carried out purposively. The research location is one of the agricultural development locations as a center for carrot production.

2.2 Determination of respondents
Respondents in this study were carrot farmers and carrot traders. The determination of respondent farmers was carried out using the census method, with a total of 40 farmers. Determination of traders is done by Snow ball sampling method

2.3 Data Analysis
Market Structure Analysis
According to Anindita, (Anindita, R., & Baladina, N. , 2017). With his book entitled marketing of agricultural products. In determining market structure in general, market structure measurements that are often used are CR4, IHH, Rosenbluth Index and Gini Index.
a.   Concentration Ratio for Biggest Four (CR4)
Concentration Ratio for Biggest Four or CR4 is an analysis tool to determine the degree of concentration of the four largest market shares of a market area. The measurement of the CR4 market structure is carried out when the available data is limited. To measure the CR4 market structure, we only need to know the four companies that have the largest market share. If you already have four companies with the largest market share, then we just need to add them up.
CR4 = total concentration of 4 (four) companies that have the largest market share with the following criteria:
a.   The CR4 value <0.4 means that the market structure is perfect competition (competitive) or monopolistic competition - in monopolistic competition.
b.   Value $0.4 \leq R4 \leq 0.8$, then the market structure is oligamous or oligopsony. If the CR4 value ranges from 60-80% it is called a tight oligopoly, whereas if the CR4 value ranges from 40-60% it is called a loose oligopoly. Because this meaning is often unclear, a measure of oligopoly or monopoly power can be tested through market power.
c.   CR4 value > 0.8, then the market structure tends to be monopoly or monopsony.
The formula for determining CR4 is as follows:

$$CR4 = \frac{Kr^1 + Kr^2 + Kr^3 + Kr^4}{Kr_{total}} \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \quad (1)$$

b. Hirschman Herfindahl Index (IHH)
This analysis aims to determine the degree of concentration of buyers from a market area, IHH provides an overview of the balance of the bargaining position of farmers (sellers) against traders (buyers). The formula for the Hirschman Herfindahl Index is:
$$IHH = (Kr_1)^2 + (Kr_2)^2 + \dots + (Kr_n)^2 \dots \dots \dots \dots \dots \dots \dots \dots \dots \quad (2)$$
Where: IHH = Hirschman Herfindahl Index; = Number of traders in a product market area; Kr_(i) = Share of commodity purchases from trader i (i = 1,2,3, …, n)
The criteria: IHH = 1, leads to monopoly/monopsony; IHH = 0, leads o perfect competition; IHH < 1, leads to oligopoly/oligopsony
c. Rosenbluth Index
The Rosenbluth index is an analytical tool to determine the level of concentration of marketing agencies involved in marketing a commodity in a market area. The calculation of the Rosenbluth Index is based on the company's ranking in terms of its market share. As for the formula:

$$R = \frac{1}{(2 \int_i^n iSi) - 1} \dots \dots \dots \dots \dots \dots \dots \dots \dots \quad (3)$$

Where: R = Rosenbluth Index; Si = market share of the ith company (1,2, ..., n)

  Rosenbluth Index values range from $1/n \leq R \leq 1$. If the value obtained is close to the minimum limit, then the market structure formed leads to a perfect competition market. Conversely, if the value obtained is close to the maximum limit, then the market structure formed leads to an oligopoly competition market.

d. Gini coefficient

  The Gini coefficient depicted in the Lorenz curve is usually used to measure the level of inequality in the distribution of national income among layers of the population. However, in this study, the Gini coefficient is a measure to determine the level of inequality in the distribution of market share between marketing agencies involved in marketing a commodity. The value of the Gini coefficient ranges from 0 to 1, where the smaller the coefficient, the more even distribution of market share. This means that the market is increasingly leading to conditions of perfect (competitive) competition. Anindita, R., and Nur, B. 2017. The Gini coefficient is measured using the following formula:

$$R = \sum_{k=n}^{i} (p_{k-1}q_x - p_k q_{k-1}) * \frac{1}{10.000} \dots \dots \dots \dots \dots \quad (4)$$

Where: R = Gini coefficient; Pk = Cumulative percentage of the number of traders in class i; Pk-1 = Cumulative percentage of the number of traders before class-i; qk = cumulative percentage of total purchase volume in class i; qk-1 = Cumulative percentage of total purchase volume before class-i; k = Number of merchant classes.

2.4 Cost and Return Analysis

  Income analysis for carrot farming in Sumbergondo Village, Bumiaji District, Batu City uses income analysis with the formula (Silva Jr, A. A. D., & Supriana, 2020); (Mahmood, I., Hassan, S., Bashir, A., Qasim, M., Ahmad, N., & Ahmad, N., 2017) as follows:

$$Pd = TR - TC$$
$$TR = Y \times Py$$
$$TC = FC + TVC \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (5)$$

Where: Pd = Farm income (Rp); TR = Total revenue (Rp); TC = Total operating costs (Rp)

RESULT AND DISCUSSION
3.1 Market Structure Analysis

  Market structure is analyzed using four analytical tools, namely CR4 analysis, Hirschman Herfindahl Index, Rosenbluth Index, and Gini Coefficient (Evren, A., Tuna, E., Ustaoglu, E., & Sahin, B., 2021). From the four analyzes that have been used, it is known that the three analytical tools state that the carrot market structure in Sumbergondo Village tends to lead to imperfect competition (oligopsony). Only one analytical tool, namely the Rosenbluth Index, states that the structure of the carrot market for the four types of marketing institutions in Sumbergondo Village leads to a perfect competition market, so that in general it can be said that the marketing of carrots in Sumbergondo Village is in imperfect market conditions which causes the bargaining position of farmers. carrots are in a weak condition. The results of the analysis in more detail are described as follows:

a. Concentration Ratio for Biggest Four (CR4)

  The Concentration Ratio For Biggest Four or CR4 is an analytical tool to determine the degree of concentration of the four largest market shares in a market area (Roy, N. D., Ratya, A., Nuhfil, H., & Wahib, M. A. , 2018); (Ayele, S., Zemedu, L., & Gebremdhin, B. , 2017). CR4 market structure measurement is carried out when the available data is limited to measure market structure. If you already have four companies with the largest market share, then we just need to add them up. The results of the analysis of the Concentration Ratio For Biggest Four (CR4) are presented in table 1.

Table 1. The Result of The Concentration Ratio For Biggest Four (CR4) Analysis

No	Marketing Channel	Purchase Volum (Kg)	Concentration Ratio (Kr)	CR4
1	wholesalers	18.000	0,201	
2	wholesalers	16.500	0,184	
3	wholesalers	16.000	0,179	0,659
4	collectors	8.500	0,095	
5	collectors	8.500	0,095	
6	collectors	6.500	0,073	
7	collectors	4.500	0,050	
8	collectors	4.500	0,050	
9	retail traders	3.500	0,039	
10	retail traders	3.000	0,034	
	Total	89.500	1	0,659

Source: Primary Data Processed 2022

Table 1 shows that there are 10 carrot marketing institutions in Sumbergondo Village, Bumiaji District, Batu City. The results of the CR4 calculation show that the value of the concentration ratio at the marketing agency is 0.659% which indicates that the existing market structure in Sumbergono Village, Bumiaji District, Batu City is included in the tight oligopoly market structure. Because the value of the concentration ratio of 0.659% is between 60% - 80%. It can be seen from the 10 carrot marketing institutions in Sumbergondo Village, Bumiaji District, Batu City, consisting of 3 wholesalers, 5 collectors and 2 retailers. These results support the theory (Mysliwski, M., 2019)

b. Hirschman Herfindahl Index (IHH)

IHH analysis aims to determine the degree of concentration of buyers in a market area, so as to find out the general picture of the balance of bargaining power between farmers (sellers) and traders (buyers) (Sulaiman, Z. P., Anindita, R., & Muhaimin, A. W., 2022) . Based on the results of the sum of 10 carrot marketing institutions in Sumbergondo Village, Bumiaji District, Batu City, a concentration area value of 0.137 is obtained, this value is obtained from the sum to the power of 2 market share of all existing market shares or involved in the carrot marketing process. From the results of the sum, the total IHH value obtained was 0.137. This indicates that the area where the researcher conducted the research, namely Sumbergondo Village, Bumiaji District, Batu City, is included in the oligopsony market structure criteria. This can be seen from the number of sellers who are less than the number of buyers and the barriers that are owned are high. The results of the analysis of the Hirschman Herfindahl Index (IHH) are presented in table 2.

Table 2. The Result of The Hirschman Herfindahl (IHH) Analysis

Marketing Channel	Purchase Channel (Kg)	Concentration Ratio (Kr)	IHH $(Kr)^2$
1	18.000	0,201	0,040
2	16.500	0,184	0,034
3	16.000	0,179	0,032
4	8.500	0,095	0,009
5	8.500	0,095	0,009
6	6.500	0,073	0,005
7	4.500	0,050	0,003
8	4.500	0,050	0,003
9	3.500	0,039	0,002
10	3.000	0,034	0,001
Total	89.500	1	0,137

Source: Primary Data Processed 2022

c. Rosenbluth Index (IR)

The Rosenbluth index is an analytical tool to determine level of concentration of marketing agencies involved in marketing a commodity in a market area (Nendissa, D. R., Anindita, R., Hanani, N., Muhaimin, A. W., & Henuk, Y. L. ., 2019). The calculation of the Rosenbluth Index is based on the company's ranking in terms of its market share, the Rosenbluth Index Value ranges from $1/n \leq R \leq 1$. If the value obtained is close to the minimum limit, then the market structure formed tends to form a perfect competition market. On the other hand, if the value obtained is close to the maximum limit, then the market structure that is formed tends to form an oligopsony competition market. Based on the results of calculations from 10 existing carrot marketing institutions. it can be seen that the IR value is 0.149, the value obtained is based on the results of calculations using IR. This indicates that the concentration in marketing institutions in the area where the researcher conducts the research is included in the criteria for a perfectly competitive market structure because the IR value is close to the minimum limit.

Table 3. The Result of The Indeks Rosenbluth (IR) Analysis

Marketing Channel (i)	MS = Si	i * Si	2 * Σ I * Si - 1	R= 1/2 * Σ i * Si -1
1	0,201	0,201	6,676	0,149
2	0,184	0,369		
3	0,179	0,536		
4	0,095	0,380		
5	0,095	0,475		
6	0,073	0,436		
7	0,050	0,352		
8	0,050	0,402		
9	0,039	0,352		
10	0,034	0,335		
Total		3,838		

Source: Primary Data Processed 2022

d. Gini coefficient

The Gini coefficient depicted in the Lorenz curve is usually used to measure the level of inequality in the distribution of national income among layers of the population. However, in this study, the Gini coefficient is a measure to determine the level of inequality in the distribution of market share between marketing agencies involved in marketing a commodity. The value of the Gini coefficient ranges from 0 to 1, where the smaller the coefficient, the more even distribution of market share. This means that the market is increasingly leading to conditions of perfect competition (competitive). The calculation of the Gini coefficient begins with the tabulation of trader data and the purchasing capacity tabulation which is presented in Table 5 and Table 6.

Table 4 shows an average value of 8.95, an interval value < 8, there are 5 traders, with an absolute value of 50 and a cumulative value of 50. An interval value of 8-10 has 2 traders, an absolute value of 20 and a cumulative value of 70 and at intervals > 10 there are 3 traders with an absolute value of 30 and a cumulative value of 100.

Table 4. The Result of The Coeffisien Gini Ratio Analysis

	Seller				
Average	Interval	Σ Seller	Absolut	Kumulatif	
8,95	< 8	5	50	50	a
	8 - 10	2	20	70	b
	> 10	3	30	100	c
		10	100		

Source: Primary Data Processed 2022

Table 5. The Result of Purcashing Capacity Data Tabulation

Purchase Capacity					
Average	Interval	Total	Absolut	Kumulatif	
8,95	< 8	22.000	25	25	d
	8 - 10	17.000	19	44	e
	> 10	50.500	56	100	f
		89.500	100		

Source: Primary Data Processed 2022

Table 5 shows that there is an average value of 8.95, an interval value < 8, there is a total capacity of 22,000 with an absolute value of 25 and a cumulative value of 25. The value of the interval 8-10 has a total purchasing capacity of 17,000 with an absolute value of 19 and a cumulative value is 44 and the interval value is > 8, there is a total purchasing capacity of 50,500 with an absolute value of 56 and a cumulative value of 100. Furthermore, the results of calculating the coefficient of the Gini ratio are presented in Table 6.

Table 6. The Result of The Coeffisien Indeks Gini (IG) Analysis

Coeffisien Indeks Gini (IG)							
a x e	b x d	R1 = a x e - b / x d	b x f	c x e	R2= b x f - / c x e	R1 + R2	I = (R1+R2)*1/10.000
2.200	1.750	450	9.000	4.400	2.600	3.050	0,305

Source: Primary Data Processed 2022

Table 6 shows the R1 value of 450 and the R2 value of 2,600, the total value of the sum of R1 and R2 is 3,050. From the results of the sum of R1 and R2 multiplied by 1 and divided by 10,000. The total value generated is 0.305. This result indicates that the value of the Gini coefficient ranges from 0 to 1, where the smaller the coefficient, the more even distribution of market share. This means that the market structure in the research area in Sumbergondo Village, Bumiaji District, Batu City leads to monopolistic competition. This is caused by an imbalance between sellers and buyers. In an imperfect competitive market, there are only one or a few sellers who are fewer than buyers. This condition causes the market to be in imperfect competition.

The market structure that is formed in each marketing institution is different and can determine the level of efficiency of a marketing. Based on the results of research in the field, the structure of the market is analyzed by looking at the number of sellers and buyers, product differentiation and market entry and exit barriers. The overall market structure in the carrot marketing process in Sumbergondo Village tends to lead to an imperfect competition market structure. It is characterized by an unequal number of sellers and buyers, no product differentiation, and barriers to market entry and exit.

3.2 Farming Income Analysis

Farming income is the difference between the total income of carrot farming and all production costs incurred during the production process in one growing season. The results showed that the average income of carrot farmers in Sumbergondo Village, Bumiaji District, Batu City in one planting season was IDR 14,146,937/ha. This income is obtained from the average total revenue of IDR 16,406,500/ha minus the average total cost of IDR 2,259,563/ha. Judging from the results obtained by farmers from carrot farming at the research location, the results obtained by farmers are very profitable for farmers and the farming is feasible to be cultivated at the research location. Based on the results of research in the field, namely the price formed in the marketing of carrots between farmers and marketing institutions is determined through market mechanisms and the results of the interaction between supply and demand so that farmers and traders in this market cannot influence prices and only act as price receivers.

Table 7. The Result of The Analysis Carrot Farmers Income

No	Description	Value (Rp/Ha)
1.	**Revenue (TR) = Y.Py**	
	a. Production (Y) = (Rp)	2.983
	b. Price of Production (Py) = (Kg)	5.500
	Total Revenue	16.406.500
2.	**Cost**	
	a. Fixed Cost (FC)	
	- Tax	33.733
	- Depreciation	
	- Hoe	40.012
	- sickle	14.576
	- Sprayer	29.342
	- Bucket	5.694
	Total Fixed Cost	123.357
	b. Variable Cost (VC)	
	- Seed	603.333
	- Pesticide	85.040
	- Fertilizer	238.000
	- Labor	1.209.833
	- Transportation	-
	Total Variable Cost	2.136.206
3.	**Total Cost (TC) = FC+VC**	
	a. Fixed Cost (FC)	123.357
	b. Variable Copst (VC)	2.136.206
	Total Cost	2.259.563
4.	**Profit (Pd) = TR - TC**	
	a. Return	16.406.500
	b. Total Cost	2.259.563
	Total Profit	**14.146.937**

Source: Primary Data Processed 2022

CONCLUSION

The results show that the market structure that occurs tends to lead to imperfect competition markets because the values of the four analyzes used are CR4 (Concentration Ratio for Biggest Four), Hirschman Herfindahl Index, Rosenbluth Index, and Gini Coefficient, leading to imperfect competition markets. The results also showed that the average income received by carrot farmers was IDR 16,406,500/ha. The average production cost incurred by respondents is IDR 2,259,563/ha. Thus, the average income received by the farmer respondents is IDR 14,146,937/ha.

REFERENCES

Anindita, R., & Baladina, N. . (2017). *Pemasaran Produk Pertanian*. Yogyakarta: Penerbit Andi.

Ayele, S., Zemedu, L., & Gebremdhin, B. . (2017). Analysis of market structure, conduct and performance of beef cattle: The case of Dugda District, East Shoa Zone, Oromia Regional State. *Ethiopia. Journal of Biology, Agriculture and Healthcare, 7*(5), 5-11.

Baladina, N. (2012, Mei). Analisis struktur, perilaku, dan penampilan pasar wortel di Sub Terminal Agrobisnis (STA) Mantung (Kasus pada sentra produksi wortel di Desa Tawangsari, Kecamatan Pujon, Kabupaten Malang). *Agricultural Socio-Economics Journal, 12*(2), 1. Retrieved Pebruari 15, 2023, from http://download.garuda.kemdikbud.go.id/article.php?article=310578&val=7372&title=Analisis%20Struktur%20Perilaku%20Dan%20Penampilan%20Pasar%20Wortel%20Di%20Sub%20Terminal%20Agrobisnis%20Sta%20Mantung%20Kasus%20Pada%20Sentra%20Produksi%20Wortel%20Di%20Desa%

Evren, A., Tuna, E., Ustaoglu, E., & Sahin, B. (2021). Some dominance indices to determine market concentration. *Journal of Applied Statistics*, 2755-2775.

Li, X., Zhang, Y., Yuan, Y., Sun, Y., Qin, Y., Deng, Z., & Li, H. (2016). Protective effects of selenium, vitamin E, and purple carrot anthocyanins on D-galactose-induced oxidative damage in blood, liver, heart and kidney rats. *Biological trace element Research, 173*, 433-442.

Luby, C. H., Maeda, H. A., & Goldman, I. L. (2014). Genetic and phenological variation of tocochromanol (vitamin E) content in wild (Daucus carota L. var. carota) and domesticated carrot (D. carota L. var. sativa). *Horticulture Research*, 1.

Mahmood, I., Hassan, S., Bashir, A., Qasim, M., Ahmad, N., & Ahmad, N. (2017). Profitability analysis of carrot production in selected districts of Punjab, Pakistan: An empirical investigation. *Journal of Applied Environmental and Biological Sciences,, 7*(2). Retrieved from https://www.researchgate.net/profile/Irfan-Mahmood-5/publication/320074638_Profitability_Analysis_of_Carrot_Production_in_Selected_Districts_of_Punjab_Pakistan_An_empirical_Investigation/links/5a87c427aca272017e5ac3fd/Profitability-Analysis-of-Carrot-Prod

Mysliwski, M. (2019). *Essays in Empirical Industrial Organization*. London: Doctoral dissertation, UCL (University College London).

Nagraj, G. S., Jaiswal, S., Harper, N., & Jaiswal, A. K. . (2020). Carrot. Nutritional Composition and Antioxidant Properties of Fruits and Vegetables. ScienceDirect. doi:https://doi.org/10.1016/B978-0-12-812780-3.00020-9

Nendissa, D. R., Anindita, R., Hanani, N., Muhaimin, A. W., & Henuk, Y. L. . (2019). Concentration of beef market in East Nusa Tenggara (ENT) Province, Indonesia. *IOP Conference Series: Earth and Environmental Science, 260*.

Roy, N. D., Ratya, A., Nuhfil, H., & Wahib, M. A. . (2018). Dynamics of degree of beef cattle market concentration in Kupang of East Nusa Tenggara, Indonesia. *Russian Journal of Agricultural and Socio-Economic Sciences, 78*(6), 379-384.

Silva Jr, A. A. D., & Supriana. (2020). Analysis of farmer's revenue and factors which affect carrot production in Surbakti Village. *IOP Conference Series: Earth and Environmental Science. 454*. IOP Publishing. Retrieved from https://iopscience.iop.org/article/10.1088/1755-1315/454/1/012028/pdf

Singh, M. N., Srivastava, R., & Yadav. (2021). Study of different varietis of carrot and its benefits for human health: a review. *Journal of Pharmacognosy and Phytochemistry, 10*(1), 1293-1299. doi:https://doi.org/10.22271/phyto.2021.v10.i1r.13529

Sulaiman, Z. P., Anindita, R., & Muhaimin, A. W. (2022). Analysis of the Structure, Conduct and Performance of the Chrysanthemum Flower Market in Pasuruan Regency (Study Case in Tutur Village). *HABITAT, 33*(01), 1-12. doi:https://doi.org/10.21776/ub.habitat.2022.033.1.1

Sundari, M. T. (2011). Analisis biaya dan pendapatan usaha tani wortel di Kabupaten Karanganyar. *SEPA: Jurnal Sosial Ekonomi Pertanian dan Agribisnis, 7*(2), 119-126. doi:https://doi.org/10.20961/sepa.v7i2.48897

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      COFFEE COMMODITIES (COFFEA
      CANEPHORA)", Indonesian Journal of Applied
      Research (IJAR), 2020
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