International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (IJEBAS)

International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (IJEBAS Journal) | ISSN (e): 2808-4713
Volumes 5 No. 3 (2025)

QUALITY STUDY OF ARABICA COFFEE COMMODITY (Coffea arabica L.) BASED ON SNI COFFEE BEANS No. 01-2907-2008 REVIEWED FROM THE ASPECT OF GOOD AGRICULTURAL PRACTICES (GAP) IN SIMALUNGUN REGENCY

Yenfrida Silitonga[1] *, Nurhayati[2] , Muhammad Rizwan[3]
[1,2,3]Universitas Islam Sumatera Utara

Received : 21 April 2025	Published : 30 June 2025
Revised : 29 April 2025	DOI : https://doi.org/10.54443/ijebas.v5i3.3388
Accepted : 17 May 2025	Link Publish : https://radjapublika.com/index.php/IJEBAS

Abstract

The problem currently faced by Indonesian coffee in the international market is the low quality of coffee generally produced by community plantations. The quality of coffee is still low because post-harvest processing still produces random coffee, namely coffee beans produced with very simple methods and facilities, relatively high water content and still mixed with other ingredients in relatively large quantities. To improve the quality of coffee beans, the application of Good Agricultural Practices (GAP) was chosen as a framework for analyzing coffee quality, because GAP plays a crucial role in ensuring sustainable and quality agricultural practices. This study aims to determine the extent to which GAP is applied to Arabica coffee cultivation in Simalungun Regency and to find out that the application of GAP can improve coffee quality in accordance with the Indonesian Coffee SNI. The research method used is a descriptive method. The basis for selecting the research location was determined intentionally (purposive method) in Simalungun Regency. The sample in this study was coffee farmers totaling 75 respondents. Data analysis was carried out descriptively and multiple linear regression tests. From the results of the study, it can be concluded that coffee farmers in Simalungun Regency have applied GAP in cultivating coffee plants, where the highest GAP application is found in plant varieties with a score of 4.04 and planting coffee at an altitude that is in accordance with a score of 4, while the lowest GAP application is found in harvesting techniques with a score of 3.55, where there are still many farmers who harvest without considering factors that can affect the quality of the coffee beans produced. The water content of coffee beans in Simalungun Regency is around 11.27%. This is in accordance with the SNI 01-2907-2008 standard, namely a maximum water content of 12.5%. The defect value of koi beans in Simalungun Regency is predominantly quality 2, which is 56% and quality 1 is 33.33%. Coffee beans with quality 1 and 2 have good quality. The size of coffee beans in Simalungun Regency is predominantly medium, which is 69.33% and large size is 26.67%. Partially, the application of Good Agricultural Practices, namely plant varieties, coffee land suitability, altitude, fertilization, pest and disease control have a significant effect on the quality of coffee beans, while harvesting techniques do not have a significant effect on the quality of coffee beans. Simultaneously, the application of Good Agricultural Practices (plant varieties, coffee land suitability, altitude, fertilization, pest and disease control and harvesting techniques have a significant effect on the quality of coffee beans.

Keywords: ***Coffee Bean Quality, Coffee Farmers, GAP Implications***

INTRODUCTION

Coffee is one of Indonesia's leading plantation commodities that has a significant contribution to national income, non-oil and gas exports, and farmer welfare. The history of coffee in Indonesia began in the late 17th century when the Dutch introduced Arabica coffee (Coffea arabica L.) from Malabar, India. Currently, Indonesia is ranked fourth as the world's largest coffee producer after Brazil, Vietnam, and Colombia, with a harvest area reaching 1.24 million hectares and a production contribution of around 7.21% to the global market (BPS, 2021). Among the types of coffee cultivated in Indonesia, Arabica coffee occupies a special position because of its distinctive taste, complex aroma, and lower caffeine content compared to Robusta. Arabica coffee contributes around 27.3% of total national production and has a selling value almost twice as high as Robusta (Directorate

General of Plantations, 2021). North Sumatra is the second largest Arabica coffee production center after Aceh, with five main districts, including Simalungun, contributing 16% of the province's total production.

However, despite the high production volume, the quality of coffee produced by smallholder plantations in Indonesia is still relatively low in the international market. Smallholder coffee is often processed traditionally with limited facilities, resulting in coffee beans that do not meet quality standards as regulated in SNI 01-2907-2008. This low quality is caused by less than optimal cultivation management, non-selective harvesting, and minimal application of good agricultural practices. To address these quality challenges, an approach through Good Agricultural Practices (GAP) is important. GAP is a sustainable cultivation practice system that prioritizes aspects of food safety, environmental sustainability, and farming efficiency. In the context of coffee cultivation, GAP includes aspects of selecting superior varieties, land suitability, altitude, balanced fertilization, integrated pest and disease control, and proper harvesting techniques. The implementation of GAP is expected to not only improve the physical and chemical quality of coffee beans, but also support traceability and selling value in the export market (Permentan No. 49/Permentan/OT.140/4/2014).

Simalungun Regency is one of the areas that has great potential in producing quality Arabica coffee, both in terms of climate, topography, and the availability of superior local varieties such as Sigarar Utang. However, until now there have not been many scientific studies that measure the extent of GAP implementation by farmers in this area, as well as its impact on the quality of the coffee beans produced. Therefore, this study was conducted to evaluate the level of GAP implementation in Arabica coffee cultivation in Simalungun Regency and analyze its effect on coffee bean quality based on SNI 01-2907-2008 standards. The results of this study are expected to provide practical contributions for farmers, extension workers, and policy makers in increasing the competitiveness of Indonesian coffee in the global market.

LITERATURE REVIEW

Description of Arabica Coffee and its Advantages

Arabica coffee (Coffea arabica L.) is a superior type of coffee that is in great demand because of its complex taste and aroma characteristics. This coffee has a lower caffeine content compared to Robusta, which is around 1–1.5% (Rahasbistara & Melani, 2024). In Indonesia, Arabica varieties are developed in highland areas, with an optimal altitude of between 1000–2000 meters above sea level. In addition to its high taste value, Arabica also has a selling value almost twice that of Robusta, making it an important export commodity, especially from the North Sumatra region.

Arabica Coffee Cultivation Based on Good Agricultural Practices (GAP)

Good Agricultural Practices (GAP) is a systematic approach to producing high-quality, safe-to-consume, and environmentally friendly agricultural products. In the context of coffee cultivation, GAP includes the selection of superior varieties, suitability of land and altitude, balanced fertilization, pest and disease control, and proper harvesting techniques. Regulation of the Minister of Agriculture No. 49/Permentan/OT.140/4/2014 is the main technical guideline in implementing GAP on coffee commodities in Indonesia. Several studies have shown that the level of GAP adoption still varies among farmers, depending on access to information, extension, and technical support (Fernadez et al., 2024; Kansrini et al., 2020).

Harvesting Techniques and Their Effect on Coffee Quality

Harvesting technique is an important factor in maintaining the quality of coffee beans. Harvesting should be done when the fruit has reached the optimal level of ripeness, indicated by bright red fruit skin. Non-selective harvesting will produce beans with low quality and high defect values. However, in Yenfrida's research, harvesting techniques were found to have no significant effect on coffee bean quality, although the application score was the lowest among other GAP aspects.

Indonesian National Standard (SNI) Coffee Bean Quality No. 01-2907-2008

Coffee bean quality standards in Indonesia are regulated in SNI 01-2907-2008, which covers three main aspects: maximum water content of 12.5%, bean size, and defect count. Physical quality assessment is carried out based on a 300 gram sample, with the calculation of defect values from damaged, perforated, or dirty beans. According to SNI, Arabica coffee grade 1 has a defect value of ≤11, grade 2 has a defect value of 12–25, and so on up to grade 6. Alfina's research (2023) shows that coffee with a water content below 12% and a low defect value tends to meet SNI quality and export demand.

The Effect of GAP on Coffee Bean Quality

The implementation of GAP has been proven to have a significant effect on coffee quality. Yenfrida's research results show that simultaneously, all GAP components such as varieties, land suitability, altitude, fertilization, and pest and disease control make a large contribution ($R^2 = 0.814$) to the quality of coffee beans. However, partially, the harvesting technique does not show a significant effect. Similar studies by Supriadi et al. (2019) and Towaha et al. (2019) emphasized the importance of altitude and land management in producing coffee with high physical and flavor quality. Good pest control has also been reported to maintain the physical integrity of the beans and increase the potential selling value (Harni et al., 2020).

GAP as a Strategic Approach to Increasing Coffee Competitiveness

In the context of global trade, the implementation of GAP is the main key to meet international quality requirements and strengthen the bargaining position of Indonesian coffee. ICO Resolution No. 407 on the "Coffee Quality Improvement Program" emphasizes the importance of quality improvement as a prerequisite for increasing the value of coffee exports. Therefore, the integration of farmer training, extension, and GAP-based quality control must be a sustainable national strategy.

METHOD

Location and Time of Research

This research was conducted in Simalungun Regency, North Sumatra, which has geographical characteristics suitable for Arabica coffee cultivation. The research location was determined purposively in two main sub-districts: Pematang Sidamanik Sub-district and Dolok Pardamean Sub-district. The research took place from July 2024 to February 2025.

Research methods

This study uses a quantitative descriptive method. The aim is to evaluate the implementation of Good Agricultural Practices (GAP) and measure its effect on the physical quality of Arabica coffee beans based on the Indonesian National Standard (SNI) No. 01-2907-2008. The study was conducted in two stages, namely a field survey using a questionnaire and testing the physical quality of coffee beans at Rumah Kopi Saabas, Pematang Sidamanik.

Observation Parameters

The quality of coffee beans is tested based on SNI 01-2907-2008 which includes three components:

- General quality standards: presence of live insects, foul/mold odor, moisture content (max. 12.5%).
- Seed size: large, medium, small.
- Number of defect values: calculated based on a sample of 300 grams of coffee beans, with visual assessment of defects such as black beans, broken beans, dirt, skin, and others. The defect value then determines the quality (1–6).

Population and Sample

The population in this study were all Arabica coffee farmers in two sub-districts in Simalungun Regency who had land between 10-20 rante. The population was 300 people. Determination of the number of samples used the Slovin formula with an error rate of 10%, so that a sample of 75 respondents was obtained.

RESULTS AND DISCUSSION

Data Analysis Results

Multiple Linear Regression Analysis

Table 1. Multiple Linear Regression Test Results

Coefficients [a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.

1	(Constant)	-1.351	.209		-6.477	.000
	Coffee varieties	.058	.022	.214	2.611	.011
	Land suitability	.038	.018	.153	2.119	.038
	Altitude of the place	.062	.021	.244	2.926	.005
	Fertilization	.051	.019	.192	2,659	.010
	HPT Control	.070	.025	.272	2,765	.007
	Harvesting Techniques	.001	.012	.006	.080	.936
a. Dependent Variable: Coffee Bean Quality						

Based on Table 4.13, the multiple linear regression equation obtained is as follows:

Y = -1.351 + 0.058 X1 + 0.038 X2 + 0.062 X3 + 0.051

a. The constant value from the results of this study shows a value of -1.351, which can be interpreted that if there is no application of Good Agricultural Practices (plant varieties, suitability of coffee land, altitude, fertilization, pest and disease control and harvesting techniques), then the quality of coffee beans is non-existent.
b. The plant variety variable has an effect on the quality of coffee beans of 0.058, meaning that a change in the plant variety variable by one unit partially affects the coffee bean quality variable by 0.058 units.
c. The coffee land suitability variable has an influence of 0.038, meaning that a change in coffee land suitability of one unit partially affects the coffee bean quality variable by 0.038 units.
d. The altitude variable has an influence of 0.062, meaning that a change in altitude of one unit partially affects the coffee bean quality variable by 0.062 units.
e. The fertilization variable has an influence of 0.051, meaning that a change in fertilization of one unit partially affects the coffee bean quality variable by 0.051 units.
f. The variable of controlling pests and plant diseases has an influence of 0.070, meaning that a change in controlling pests and plant diseases by one unit partially affects the variable of coffee bean quality by 0.070 units.
g. The control variable of harvesting technique has an influence of 0.001, meaning that a change in harvesting technique of one unit partially affects the coffee bean quality variable by 0.001 units.

F Test

Table 2. F Test Results

ANOVA [b]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	17,086	6	2,848	49,638	.000 [a]
	Residual	3.901	68	.057		
	Total	20,987	74			
a. Predictors: (Constant), Harvesting Technique, Fertilization, Land Suitability, Altitude, Coffee Variety, HPT Control						
b. Dependent Variable: Coffee Bean Quality						

From the calculation results above, it can be seen that the F-count figure is 49.638 and the Sig. value is 0.000. If the test is carried out at α = 5%, df1 = 6 while df2 = 74 then the F-table is 2.24. The F-count value> F-table or 49.638> 2.24 and the Sig value is 0.000, it can be concluded that simultaneously the application of Good Agricultural Practices (plant varieties, coffee land suitability, altitude, fertilization, pest and disease control and harvesting techniques) has a significant effect on the quality of coffee beans.

Individual Parameter Significance Test (t-Test)

Table 3. t-Test Results

Coefficients [a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.351	.209		-6.477	.000
	Coffee varieties	.058	.022	.214	2.611	.011
	Land_suitability	.038	.018	.153	2.119	.038
	Altitude of the place	.062	.021	.244	2.926	.005
	Fertilization	.051	.019	.192	2,659	.010
	HPT Control	.070	.025	.272	2,765	.007
	Harvesting Techniques	.001	.012	.006	.080	.936
a. Dependent Variable: Coffee Bean Quality						

a. Hypothesis based on the test results in the table above can be seen that the coffee variety variable has a t-count value of 2.611. This shows that t-count> t-table, namely 2.611> 1.979. When viewed from the level of significance in the table, coffee varieties have a significance level of 0.011 <0.05. So it can be concluded that coffee varieties have a significant effect on the quality of coffee beans.
b. Hypothesis based on the test results in the table above can be seen that the land suitability variable has a t-count value of 2.119. This shows that t-count> t-table, namely 2.191> 1.979. When viewed from the level of significance in the table, land suitability has a level of significance of 0.038 <0.05. So it can be concluded that the suitability of coffee land has a significant effect on the quality of coffee beans.
c. The hypothesis based on the test results in the table above can be seen that the altitude variable has a t-count value of 2.926. This shows that t-count> t-table, namely 2.926> 1.979. When viewed from the level of significance in the table, the altitude has a significance level of 0.005 <0.05. So it can be concluded that the altitude has a significant effect on the quality of coffee beans.
d. Hypothesis based on the test results in the table above can be seen that the fertilization variable has a t-count value of 2.659. This shows that t-count> t-table, namely 2.659> 1.979. When viewed from the level of significance in the table, fertilization has a level of significance of 0.010 <0.05. So it can be concluded that fertilization has a significant effect on the quality of coffee beans.
e. The hypothesis based on the test results in the table above can be seen that the pest and disease control variable has a t-count value of 2.765. This shows that t-count> t-table, namely 2.765> 1.979. When viewed from the level of significance in the table, pest and disease control has a significance level of 0.007 <0.05. So it can be concluded that pest and disease control has a significant effect on the quality of coffee beans.
f. Hypothesis based on the test results in the table above can be seen that the harvesting technique variable has a t-count value of 0.080. This shows that t-count <t-table, which is 0.080 <1.979. When viewed from the level of significance in the table, pest and disease control has a level of significance of 0.936> 0.05. So it can be concluded that the harvesting technique does not have a significant effect on the quality of coffee beans.

Coefficient of Determination (R^2) Test

Table 5. Results of the Determination Coefficient Test

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.902 [a]	.814	.798	.23952
a. Predictors: (Constant), Harvesting Technique, Fertilization, Land Suitability, Altitude, Coffee Variety, HPT Control				

In this study, the coefficient of determination (R Square) is 0.814. This means that the selection is influenced by the variable of Good Agricultural Practices implementation (plant varieties, coffee land suitability,

altitude, fertilization, pest and disease control and harvesting techniques) of 81.40% affecting the quality of coffee beans. While the remaining 100% - 81.40% = 18.60% is explained by other factors outside this study.

The results of the study showed that partially plant varieties, coffee land suitability, altitude, fertilization, pest and disease control had a significant effect on coffee bean quality, while harvesting techniques did not have a significant effect on coffee bean quality.

CONCLUSION

From the results of the study on "Quality Study of Arabica Coffee Commodity (Coffea arabica L.) Based on SNI Coffee Beans No. 01-2907-2008 Reviewed from the Aspect of Good Agricultural Practices (GAP) in Simalungun Regency" the following conclusions can be drawn:

1. Coffee farmers in Simalungun Regency have applied GAP in cultivating coffee plants, where the highest GAP application is found in plant varieties with a score of 4.04 and planting coffee at an appropriate height with a score of 4, while the lowest GAP application is found in harvesting techniques with a score of 3.55, where there are still many farmers who harvest without paying attention to factors that can affect the quality of the coffee beans produced.
2. The water content of coffee beans in Simalungun Regency is around 11.27%. This is in accordance with the SNI 01-2907-2008 standard, namely a maximum water content of 12.5%.
3. The defect value of koi beans in Simalungun Regency is dominated by quality 2, which is 56% and quality 1 is 33.33%. Coffee beans with quality 1 and 2 have good quality.
4. The size of coffee beans in Simalungun Regency is predominantly medium sized, namely 69.33%, and large sized, namely 26.67%.
5. The results of the study showed that partially the application of Good Agricultural Practices, namely plant varieties, coffee land suitability, altitude, fertilization, pest and disease control had a significant effect on the quality of coffee beans, while harvesting techniques did not have a significant effect on the quality of coffee beans. Simultaneously, the application of Good Agricultural Practices (plant varieties, coffee land suitability, altitude, fertilization, pest and disease control and harvesting techniques had a significant effect on the quality of coffee beans.

REFERENCES

Arikunto, Suharsimi. 2021. Prosedur Penelitian: Suatu Pendekatan Praktik. Jakarta: Rineka Cipta.

Barbosa, J. N., Borem, F. M., Cirillo, M. A., Malta, M. R., Alvarenga, A. A., & Alves, H. M. R. 2019. Coffee quality and its interactions with environmental factors in Minas Gerais, Brazil. Journal of Agricultural Science, 4(5), 181–190.

BPS. 2024. Ekspor Kopi Menurut Negara Tujuan Utama 2000 – 2023. Jakarta: Badan Pusat Statistik Indonesia.

Clemente, J.M., Martinez, H.E.P., Alves, L.C., Finger, P.L. & Cecon, P.R. 2019. Effects of nitrogen and potassium on the chemical composition of coffee beans and on beverage quality. Maringá 37(3), 297–305.

Direktorat Jenderal Perkebunan Kementerian Pertanian. 2021. Statistik Perkebunan IndonesiaKomoditas Kopi 2020-2021. Jakarta: Direktorat Jenderal Perkebunan.

Fernadez, Regi et al. 2024. "Tingkat Adopsi Good Agriculture Practices (Gap) Tanaman Kopi Oleh Kelompok Tani Tunas Jaya Dan Bima Saktal Di Desa Iv Suku Menanti Kabupaten Rejang Lebong." Communnity Development Journal 5(2): 2995–3001.

Fitriani, D. 2023. Eksistensi Budaya Minum Kopi dari Era Kolonial hingga Era Modern. Daya Nasional Jurnal Pendidikan Ilmu-ilmu Sosial dan Humaniora Vol. 1(3): 114-119.

Ghozali, Imam. 2022. Aplikasi Analisis Multivariete Dengan Program IBM SPSS 25. Semarang: Badan Penerbit Universitas Diponegoro.

Harni, R., Samsudin, W. Amaria, G. Indriati, F. Soesanthy, Khaerati, E. Taufiq, A. M. Hasibuan dan A. D. Hapsari. 2020. Teknologi Pengendalian Hama dan Penyakit Tanaman Kopi. Jakarta : IAARD Press.

Jessy, M.D. 2019. Potassium management in plantation crops with special reference to tea, coffee, and rubber. Karnatak 5 Agric. Sci., 24(1), 67–74.

Kansrini, Y., Febrimeli, D. dan Mulyani P.W. (2020).). Tingkat Adopsi Budidaya yang baik (GOOD AGRICULTURE PRACTICES) Tanaman Kopi Arabika oleh Petani di Kabupaten Tapanuli Selatan. Jurnal Paradigma Agribisnis.

Martins, L.D., Machado, L.S., Tomas, M.A., & do Amaral, J.F.T. 2020. The nutritional efficiency of Coffea spp. A review. Afr. J. Biothecnol., 14(9), 728–734.

Mulato, S. 2021. Peningkatan Mutu Biji Kopi Rakyat dengan Pengolahan Semi Basah Berbasis Produksi Bersih. Jurnal Agrotek Vol. 4:76-90.

Nainggolan P. 2023. Kopi Arabika Sumatera Utara Komoditas Eksport untuk Kesejahteraan Petani. BRIN.

Nugroho, D., Mawardi, S., Yusianto, dan Arimersetiowati, R. 2019. Karakterisasi mutu fisik dan cita rasa biji kopi Arabika varietas Maragogip (Coffea arabica L. var. Maragogype Hort. ex Froehner) dan seleksi pohon induk di Jawa Timur. Pelita Perkebunan, 28(1), 1–13.

Peraturan Menteri Pertanian. 2014. "Peraturan Menteri Pertanian Republik Indonesia Nomor 49/Permentan/OT.140/4/2014 Tentang Pedoman Teknis Budidaya Kopi yang Baik (good agriculture practices /gap on coffee)." Sekretariat Negara Republik Indonesia: 72.

[PUSDATIN] Pusat Data dan Sistem Informasi Pertanian Sekretariat Jenderal Kementerian Pertanian.2019. Buku Outlook Komoditas Perkebunan Kopi 2021. Jakarta: Portal Epublikasi Pertanian.

Rahasbistara, M.. R. W dan N. K. L. S. Melani, 2024. Review: Pengaruh Efektivitas Ekstrak Kopi Arabika sebagai Antioksidan dan Bentuk Sediaan Farmakologi. Al-Mikraj Jurnal Studi Islam dan Humaniora Vol. 5(1): 585-595.

Randriani, E., Dani, dan Wardiana, E. 2024. Evaluasi ukuran biji beras, kadar kafein, dan mutu cita rasa lima kultivar kopi Arabika. J. TIDP, 1(1), 49-56.

Saefudin, dan Wardiana, E. 2023. Pengaruh varietas dan tingkat kematangan buah terhadap perkecambahan dan fisik benih kopi Arabika. Buletin Ristri, 4 (3), 245-256.

Salima, R. A. Karim, Sugianto. 2022. Evaluasi kriteria kesesuaian lahan kopi Arabika Gayo 2 di Dataran Tinggi Gayo. Jurnal MSDL, Vol. 1 (2) : 194-206.

Silalahi, A. V. dan R. I. Rosyadi. 2024. Evaluasi Kesesuaian Lahan Kopi Robusta (Coffea canephora) Desa Pucaksari Kecamatan Busungbiu Kabupaten Buleleng Menggunakan Analisis Sistem Informasi Geografi. Spatial : Wahana Komunikasi dan Informasi Geografi, 21-30.

Silva, S. de A., de Queiroz, D. M., Ferreira, W. P. M., Corrêa, P. C., & Rufino, J. L. dos S. 2019. Mapping the potential beverage quality of coffee produced in the Zona da Mata, Minas Gerais, Brazil. Journal of the Science of Food and Agriculture, 96: 3098–3108.

SNI (Standar Nasional Indonesia). Biji Kopi. SNI 01-2907-2008. Jakarta : Badan Standarisasi Nasional.

Statmat. "Pengertian dan 4 Jenis Skala Pengukuran dalam Statistika". 2020. <https://www.statmat.net/pengertian-dan-jenis-skala-pengukuran/>

Sugiyono. 2021. Metode Penelitian Kuantitatif dan R&D. Bandung : CF. Alfabeta.

Supriadi, H., Rusli, dan Heryana, N. 2019. Kesesuaian lahan untuk tanaman kopi. In Rubiyo, Syafaruddin, B. Martono, R. Harni, U. Daras, & E. Wardiana (Eds.), Bunga Rampai: Inovasi Teknologi Tanaman Kopi untuk Perkebunan Rakyat (pp. 47-56). Sukabumi: Unit Penerbitan dan Publikasi Balittri.

Supriadi, H., Randriani, E., dan Towaha, J. 2019. Korelasi antara ketinggian tempat, sifat kimia tanah, dan mutu fisik biji kopi Arabika di dataran tinggi garut. J. TIDP, 3(1), 45-52.

Syamsu, B. 2022. Memahami Makna Kopi Dalam Perilaku Keseharian. DIMENSI Jurnal of Sociology Vol. 11(1): 23-30.

Towaha, J., Purwanto, E. H., dan Supriadi, H. 2019. Atribut kualitas kopi Arabika pada tiga ketinggian tempat di Kabupaten Garut. J. TIDP, 2(1): 29-34.