
FARMERS' BEHAVIOR IN THE APPLICATION OF COFFEE HARVEST AND POST-HARVEST TECHNIQUES ACCORDING TO GOOD MANUFACTURING PRACTICE QUALITY STANDARDS

Abdullah Al Azis, Dadan Dwi Pratama, Reza Zaini Fadhilah, Dwi Purnomo, Dodi Budirokhman

Universitas Swadaya Gunung Jati, Indonesia

Email: dodi.budirokhman@ugj.ac.id

Abstract

Good manufacturing practice is a guideline for producing safe and quality food products. GMP is carried out from the plantation, starting from harvest and post-harvest techniques. Harvest and post-harvest handling is influenced by the farmer's behavior in carrying out his business. This research aims to determine the behavior of farmers in Cilimus District in implementing coffee harvesting and post-harvest techniques in accordance with GMP standards. The research was conducted in Cilimus District, Kuningan Regency with the consideration that this area has superior coffee production. The research is planned to be carried out in January 2024. The research design used is descriptive quantitative with survey research techniques. The sample size in this study was 65 respondents. The data analysis technique was carried out descriptively with a Likert score weighting of 1-5. The research results show that farmer behavior in harvesting techniques consists of knowledge with a percentage of 56.31%, attitude with a percentage of 52.00% and farmer skills with a percentage of 49.78%. Each aspect indicates quite good condition. Farmers' behavior in post-harvest handling consists of knowledge of 64.09% in the good category, but attitude of 55.87% and skills of 50.86% in the quite good category.

Keywords: Cilimus, Harvest, Post-harvest, Behavior, Farmers

INTRODUCTION

Harvest and post-harvest techniques are an important part of a comprehensive agricultural production process (Udayana, 2011). Harvest harvesting techniques have the aim of handling harvest results effectively and efficiently so as to produce high quality products and maximize profits for farmers (Sumule & Larekeng, 2021). Sumule & Larekeng, (2021) revealed the purpose of post-harvest techniques which include processing, packaging and storing harvest activities to maintain quality and extend shelf life. Proper harvest and post-harvest handling can ensure that the harvest is processed properly so that it can be sold at a good price. So that farmers get good added value (Kembaren & Muchsin, 2021).

Good quality coffee can increase the coffee market potential because consumers are more interested in high quality coffee (Sefrianto & Handayani, 2021). Coffee quality can be achieved by implementing Good Manufacturing Practice (GMP), namely guidelines related to how to produce food in a good way that broadly focuses on product quality and safety (Prajogo, Lutfi, Liana, & Adi, 2020). The application of GMP to coffee commodities can ensure that coffee meets established quality and safety standards so as to increase product competitiveness and consumer confidence (Herminingsih, Aji, & Avivi, 2020). Modern consumers increasingly care about the coffee they consume, starting from the origin and production process (Taufani, 2020).

The development of the coffee processing industry in Indonesia is relatively large because there is support from available raw materials (Wibowo, 2019). Furthermore, Dharmayanti (2020) stated that Indonesia is the fourth largest coffee producer in the world with an average annual production of 700,000 tonnes with a percentage of 9% of total coffee production in the world. The processed coffee trade sector is also commonly sold in coffee

shops. Coffee shops in Indonesia experienced growth of 23% in 2019 (Erawati, Agasi, & Tachjuddin, 2021).

The existence of the coffee products industry which continues to grow has resulted in a large demand for coffee by the industry. The industry has criteria for the best quality coffee raw materials to produce products that consumers like (Wachdijono & Yahya, 2021). Consumers have a preference for coffee products with a rich, fresh aroma and a balanced taste (Andika, Yusriana, & Rasdiansyah, 2023).

The existence of the coffee products industry which continues to grow has resulted in a large demand for coffee by the industry. The industry has criteria for the best quality coffee raw materials to produce products that consumers like (Wachdijono & Yahya, 2021). Consumers have a preference for coffee products with a rich, fresh aroma and a balanced taste (Andika et al., 2023).

The existence of the coffee products industry which continues to grow has resulted in a large demand for coffee by the industry. The industry has criteria for the best quality coffee raw materials to produce products that consumers like (Wachdijono & Yahya, 2021). Consumers have a preference for coffee products with a rich, fresh aroma and a balanced taste (Andika et al., 2023).

Based on the results of observations, information was obtained that farmers felt less interested in implementing harvest and post-harvest techniques according to GMP standards. Implementing GMP in coffee farming is considered to be a waste of time, energy and carries the risk of additional costs. Even though according to Aziz, Isyanto, & Puspitasari, (2020) non-standardized harvest and post-harvest techniques can have a negative effect on food quality and safety. Proper post-harvest handling aims to prevent weight loss, slow down chemical damage, prevent contamination by foreign materials and prevent physical damage.

Therefore, there is a need to study farmers' behavior in implementing coffee harvesting and post-harvest techniques according to GMP standards to improve the quality and safety of agricultural products and increase competitiveness which has a positive impact on the selling price and market attractiveness of coffee commodities in Cilimus District.

Implementing coffee harvesting and post-harvest techniques by complying with Good Manufacturing Practice (GMP) quality standards is a crucial step in ensuring high quality coffee production. Coffee farmers implementing these practices not only support increasing their income and welfare but also play a role in providing coffee products that meet consumer expectations to get the best products.

Based on a literature review, several previous research results were obtained relating to farmers' behavior in implementing harvest and post-harvest coffee in accordance with standards, including: Santoso, Dalmyatun, & Prayoga, (2022) explained that farmer behavior is positively related to farmer adoption in implementing coffee harvest and post-harvest activities in Temanggung. Furthermore, (BANDANGAN, 2022) explains that farmer behavior consisting of knowledge, attitudes and skills in harvesting and post-harvesting has good standards.

RESEARCH METHOD

This research was conducted in Cilimus District, Kuningan Regency. The location for this research was determined deliberately with the consideration that it is a production center in Kuningan Regency. The research was carried out in January 2024. The research design used in this research is classified as a descriptive quantitative method with survey techniques.

The population in this study were coffee farmers in Cilimus District, totaling 188 farmers. Then, the population size is sampled using the following Slovin formula:

$$n = \frac{188}{1 + 188 (10\%)^2} = 65$$

The sample size was 65 coffee farmers. Determining the sample uses simple random sampling, namely taking samples from the population randomly without paying attention to the strata in the population and each member of the population has the same opportunity to be sampled (Siregar, 2017).

The variables in this research are latent variables (variables that cannot be measured directly) so that what is measured is the indicator for each variable (Latan & Ghozali, 2017). The objects studied are harvest and post-harvest techniques which are assessed based on variables and indicators that explain them. These variables and indicators can be made operational definitions to facilitate and confirm measurement, namely:

- 1) Farmers' knowledge of harvest techniques is the understanding that coffee farmers have in carrying out the harvest process which is measured using a Likert scale of 1 to 5.
- 2) Farmers' attitudes towards harvesting techniques are the farmers' views, beliefs and tendencies towards the harvesting process which are measured using a scale of 1 to 5.
- 3) Farmer skills in harvesting techniques are the actions carried out by farmers in the harvest process in accordance with standards measured using a scale of 1 to 5.
- 4) Farmers' post-harvest knowledge is the understanding that farmers have in carrying out post-harvest coffee which is measured using a scale of 1 to 5.
- 5) Farmers' attitudes during post-harvest are farmers' views, beliefs and tendencies towards the post-harvest process which are measured using a scale of 1 to 5.
- 6) Farmer skills during post-harvest are the actions taken by farmers in post-harvest handling of coffee which are measured using a scale of 1 to 5

Likert scale data between 1 and 5 (1=strongly disagree; 2=disagree; 3=somewhat agree; 4=agree; 5=strongly agree). Next, data analysis in this research uses descriptive statistics with the following formula:

$$\% = \frac{n}{N} \times 100\%$$

Information:

- % : Percentage
- n : Real score
- N : Expected score

Mathematical calculations to get a score for each variable so that the condition of that variable can be known. The score calculation is based on the proportion of the score obtained (observation/survey value) compared to the highest score (expected value) whose results are in the form of categories (Kuncoro & Riduwan, 2014).

These percentages can be interpreted in Table 1

Table 1. Data Interpretation

Likert scale	Percentage	Category
5	81 – 100 %	Verry good
4	61 – 80%	Good
3	41 – 60%	Pretty good
2	21 – 40%	Lov
1	0 – 20%	Very low

RESULT AND DISCUSSION

General Description

Cilimus District is located on a plateau at the foot of Mount Ciremai with coordinates 6051'08" to 6051'18 South Latitude and 108028'05" to 108030'00" East Longitude. The boundaries of the region are that to the north it borders Beber District, Cirebon Regency, to the south it borders Jalaksana District, to the east it borders Cigandamekar District and to the west it borders Mandirancan District. Administratively it consists of 13 with an area of 3,324ha.

Cilimus District is classified as a tropical climate area with monthly temperatures ranging from 18-32°C and rainfall between 2,000-2,500mm per year. The rainy season occurs from November to May and the dry season occurs from June to October. The conditions in Cilimus District can support the growth and development of coffee plants because ideal temperatures, good rain patterns and sufficient sunlight can influence the quality and yield of coffee crops (Sari, Hasugian, & Harahap, 2023)

Coffee farming in Cilimus District has been carried out for a long time and was pioneered by farmers in Cibeureum Village and has been carried out for generations. Cibeureum Village currently contributes around 80% of the total coffee production of Cilimus District. Coffee farmers in Cilimus District apply dominant cultivation techniques using organic materials such as the use of organic fertilizer and organic pesticides.

The types of coffee commonly cultivated in this area include varieties that are suited to the environmental conditions of Cilimus District. About 95% of the type of coffee cultivated by farmers is robusta coffee, while around 5% is other types of coffee. Based on the results of the coffee taste test, a value of 80.58 (specialty grade) was obtained, thus indicating that the coffee produced has a distinctive aroma and taste. The characteristic of Robusta coffee is that it has a bitter taste which comes from its high caffeine content, so this taste is the reason why coffee is preferred as a raw material for ready-to-drink coffee and blends for blended coffee to strengthen the taste (Rafsanjani, 2022).

Farmer Characteristics

Farmer characteristics are conditions or attributes inherent in a coffee farmer. The characteristics of coffee farmers in Cilimus District are described according to age, education and coffee farming experience. These three characteristic aspects are elements that form an important foundation for the success and sustainability of coffee farming.

Farmers Age

Age is seen as one of the factors that can determine the success of farming carried out by farmers, this condition is related to the condition of accepting adopting new innovations related to business sustainability (Hutasoit, Prasmatiwi, & Suryani, 2020). Younger farmers tend to be more open to innovation and technology compared to the older generation who often bring experience managing coffee plants that comes from the legacy of previous generations who carried out traditional coffee farming. The ages of coffee farmers in Cilimus District are in Table 2.

Table 2. Farmers Age

Number	Age (Years)	Number (People)	Percentage (%)
1	38 – 45	17	26,15
2	46 – 52	25	38,46
3	53 – 59	23	35,38
	Amount	65	100,00

Table 2 shows that the largest coffee farmers in Cilimus District are in the 46-52 year age range, namely 38.46% and the smallest are in the 38-45 year range, namely 26.15%. The youngest coffee farmer in Cilimus District is 38 years old while the oldest is 59 years old. The

age condition of coffee farmers is classified as productive age, this is in accordance with BPS measurements regarding productive age being in the age range of 15 to 64 years.

Farmers Education

Farmer education is measured based on the formal education that farmers have completed. The education of coffee farmers can vary, some farmers have a higher education and some have a lower educational background. Farmers with high education can usually bring innovation and strategic thinking, while farmers with low formal education only rely on local wisdom and practical experience (Kansrini, Febrimeli, & Mulyani, 2020). The education of coffee farmers in Cilimus District is shown in Table 3.

Table 3. Farmers Education

Number	Education	Number (People)	Percentage (%)
1	Elementary school	21	32,31
2	Junior high school	20	30,77
3	Senior high school	24	36,92
	Amount	65	100,00

Table 3 shows that the highest education level of farmers in Cilimus District is SMA/equivalent with a percentage of 36.92%, while the smallest number is SMP/equivalent with a percentage of 30.77%. This condition means that the majority of coffee farmers belong to the educated category. Even though formal education does not involve studying agriculture, farmers can obtain information through extension activities. Farmers with a better level of education tend to be able to digest information well (Kansrini et al., 2020).

Farming Experience

Experience is an important factor for coffee farmers in carrying out their farming business. Farmers who have been involved in coffee farming for a long time have a deep understanding of their farming business. Farmers who combine experience with innovation tend to achieve higher efficiency in production and business management (Yurisinthae & Suharyani, 2023). This farming experience is measured based on the first time the farmer started coffee farming independently. Farmer characteristics based on coffee farming experience are in Table 4.

Table 4. Farming Experience

Number	Experience (Years)	Number (People)	Percentage (%)
1	9-14	18	27,69
2	15-20	22	33,85
3	21-26	25	38,46
	Amount	65	100,00

Table 4 shows that the highest level of experience for coffee farmers in Cilimus District is 21-26 years, namely 38.46%, while the lowest is 9-14 years, namely 27.69%. This condition means that the average farmer has long experience in farming. This source of experience is based on things that happen in their own coffee plantations and in other farmers' coffee plantations. Various things that occur in farming activities can become a basis for not repeating the same obstacles (Yurisinthae & Suharyani, 2023).

Data Analysis and Discussion

Farmer Behavior in Harvesting Techniques

Handling the coffee harvest is the final stage or activity of the coffee plant cultivation process before entering the post-harvest stage. Coffee harvesting is ideally done when the coffee is completely ripe, characterized by the color of the fruit changing from green to red

(Budiman, 2012). Based on the research data obtained, the handling of robusta coffee harvest carried out by coffee farmers in Cilimus District includes knowledge, attitudes and skills.

Farmers' behavior in carrying out harvest techniques can be described using descriptive scores for each questionnaire item answered by respondents. In this descriptive analysis, real scores are compared with expected scores. The real score is the result of multiplying the number of samples times the average response value and times the number of questions, while the expected score is the result of multiplying the number of samples times the highest response value and times the number of questions (Djemari, 2008). Descriptive scores of farmer behavior in harvesting techniques are in Table 5.

Table 5. Description of Farmer Behavior in Harvesting Techniques

Number	Indicator	Response frequency					Number of questions	Real score	Expected score	Percentage
		5	4	3	2	1				
1	Knowledge	79	77	242	149	103	10	1.830	3.250	56,31
2	Attitude	47	63	238	187	115	10	1.690	3.250	52,00
3	Skills	36	54	225	212	123	10	1.618	3.250	49,78

Table 5 shows the condition of farmers' behavior in harvesting techniques according to the quality standards of good manufacturing practices which consist of knowledge, attitudes and skills. The score for each indicator is knowledge 1,830 with a percentage of 56.31%, attitude 1,690 with a percentage of 52% and skills 1,618 with a percentage of 49.78%. The farmer's behavior score is quite good because it has a percentage in the range of 41-60% according to the standards in Table 1.

Knowledge of Harvest Techniques

Knowledge plays a very important role in every human life and enables a person to understand and differentiate between right and wrong. Knowledge is also a very important tool for every human being to carry out all forms of effort to maintain their survival. A person's knowledge certainly has different sources, likewise for coffee farmers in Cilimus District, especially in cultivating coffee plants, they have sources of knowledge, including knowledge that comes from themselves, some that comes from the family and also comes from other people or fellow farmers. coffee.

The level of knowledge of coffee farmers in applying harvesting techniques according to good manufacturing practice is in the quite good category with a percentage of 56.31%. This condition is in accordance with observations made by Sumule & Larekeng (2021) which stated that the condition of farmers' knowledge of harvest techniques is in the quite good category. Furthermore, Mardiah et al. (2019) stated in their research that the level of farmers' knowledge of standardized harvesting techniques was in the medium/fairly good category. The level of farmers' knowledge of harvesting techniques describes the quality of human resources in the coffee farming sector.

Farmers' knowledge regarding GMP principles is important to ensure food safety, improve food quality and increase competitiveness and business efficiency. The main principles of GMP in harvesting techniques include: (1) quality control to ensure that harvested coffee beans meet the criteria for perfect maturity; (2) process control to ensure that harvesting techniques are carried out carefully so that the coffee beans and plants are not damaged; (3) environmental control to ensure that waste management resulting from the harvest process is carried out appropriately in order to minimize the risk of microbial contamination or other foreign materials. At the research location, farmers who frequently participate in extension activities carried out by related institutions tend to have better knowledge regarding coffee harvest management, such as: knowing the signs that coffee is ready to harvest.

Harvest technique attitude

Attitude is part of the behavior of farmers as coffee producers as a form of tendency to adapt options that are considered better than other options (Bandangan, 2022). The attitude of farmers to carry out harvesting techniques according to GMP standards is very important to ensure the quality and safety of the coffee they produce. Farmers' positive attitudes are formed from high awareness of the importance of production quality and efforts to improve their bargaining position.

The level of attitude of coffee farmers in implementing harvesting techniques that comply with GMP is 52%, thus indicating quite good conditions. This condition is in line with research conducted by Mardiah et al. (2019) which states that the condition of farmers regarding the application of harvesting techniques is in moderate/fairly good conditions. Then, research conducted by Dahang (2020) also stated that farmers' attitudes towards harvesting techniques were in the medium category. This attitude condition is obtained by farmers by considering the positive or negative impacts felt by their farming business.

The farmer's attitude in applying harvest techniques that produce quality in accordance with GMP standards is felt to be important because it reflects awareness of the quality and safety of the product so that it meets consumer expectations. A consistent attitude to implementing GMP can be used as an effort by farmers to produce coffee beans that are not only delicious, but maintain quality standards in order to increase the reputation and competitiveness of coffee (Alexander & Nadapdap, 2019).

Harvest Technique Skills

Skills are actions taken by farmers in coffee harvesting activities in accordance with GMP quality standards. Skills are seen as a crucial step in ensuring that harvesting techniques are carried out properly to ensure the quality and safety of the coffee produced. According to Dahang (2020), proper harvesting techniques show the farmer's ability to understand the GMP process.

Farmers' skills in applying harvest techniques according to GMP quality standards have a percentage of 49.78% so they are classified as quite good. This condition is in accordance with the results of research conducted by Mardiah et al. (2019) which states that farmers' skills in good harvesting techniques are in the medium/fairly good category. These results are different from Sumule & Larekeng (2021) who stated that farmers' skills were relatively low.

Farmers who apply harvesting techniques according to GMP standards demonstrate adequate technical skills. Farmers have in-depth knowledge of the coffee harvesting process and are able to implement harvesting techniques by choosing the right time, how to pick, selecting coffee cherries, managing harvest waste and using the tools needed during harvest. The skills of farmers in Cilimus District are obtained through training so that farmers who actively participate in harvest technique training tend to have a better skill level (Sumule & Larekeng, 2021). Proper harvesting techniques contribute greatly to the quality of the harvest and the image of the coffee plantation so that it can maintain the sustainability of coffee farming.

Farmer Behavior in Post-Harvest

Post-harvest handling is a series of activities carried out after the harvest process to prepare, process and store agricultural products in order to maintain the quality of coffee. The aim of post-harvest handling is to minimize the level of losses and optimize economic value (Kembaren & Muchsin, 2021). Post-harvest handling of coffee is very important in ensuring the quality and taste of the coffee is maintained to consumers. According to Kansrini et al. (2020) post-harvest coffee process includes: (1) separating bad coffee cherries; (2) peeling coffee cherries; (3) cleaning of mucus and remaining skin that is still attached; (4) sorting to

separate defective seeds; (5) drying the seeds to reduce the water content; (6) roasting coffee to a certain level of maturity; (7) milling to produce coffee powder; (8) packaging to maintain coffee quality and safety; (9) storage to maintain quality due to exposure to air, light and humidity; and (10) distribution to consumers.

Farmer behavior in this research was analyzed in relation to farmer knowledge, attitudes and skills related to post-harvest coffee. Descriptive scores of farmer behavior in harvesting techniques are in Table 6.

Table 6. Farmer Behavior in Post-Harvest

Number	Indicator	Response frequency					Number of questions	Real score	Expected score	Percentage
		5	4	3	2	1				
1	Knowledge	79	86	173	83	34	7	1.458	2.275	64,09
2	Attitude	57	63	152	95	88	7	1.271	2.275	55,87
3	Skills	42	56	132	102	123	7	1.157	2.275	50.86

Table 6 shows that the condition of farmers' behavior in implementing harvest techniques is in accordance with GMP quality standards which consist of knowledge, attitudes and skills. The scores for each behavioral aspect are knowledge 1,458 with a percentage of 64.09%, attitude 1,271 with a percentage of 55.87% and skills 1,157 with a percentage of 50.86%. The behavior score means that the knowledge condition is good because it is in the range of 61-80%, while attitudes and skills are quite good because they are in the percentage range of 41-60%.

Post-harvest knowledge

Farmers' post-harvest knowledge is important because it can affect the quality and added value of agricultural products. This knowledge becomes the basis for farmers in running their farming business. Farmers' knowledge in the post-harvest phase involves a number of activities aimed at maintaining the quality and value of the harvest and managing it efficiently.

The level of knowledge of farmers at post-harvest in Cilimus District is 64.09%, so it is in the good category and most farmers are able to distinguish the color of coffee that is ripe and ready to be harvested as well as selecting the color of the coffee fruit. The results of this research are different from the research of Prastisi et al. (2023) others show that farmers' knowledge of post-harvest development systems is still relatively low and guidance on the use of post-harvest technology for farmers is still minimal so that some technologies have not been mastered well. Furthermore, Thoriq et al. (2020) stated that if the level of knowledge tends to be poor, training in coffee cultivation techniques can be carried out to increase knowledge in carrying out coffee farming.

Farmers' knowledge of GMP principles in post-harvest is important so that handling can be carried out with quality and safety standards. Apart from that, farmers also need to understand land sanitation and the cleanliness of the equipment used in each post-harvest process. Furthermore, Santoso et al. (2022) stated that farmers need to understand the possibility of pest and disease attacks in the post-harvest process so that they can formulate preventive and curative measures.

Post-harvest attitude

Farmer attitude is the farmer's tendency towards post-harvest implementation in accordance with GMP quality standards. Generally, farmers have a positive attitude towards improving the quality of their coffee beans. Farmers believe in the benefits of improving quality and are committed to implementing standard post-harvest practices. Apart from that, attitudes are influenced by internal factors in the form of farmer knowledge and external factors in the form of other supporting capacities (Mardiah et al., 2019).

Farmers' attitudes towards post-harvest implementation with a percentage of 55.87% so it is in the quite good category. These results are in line with research by Santoso et al. (2022) which states that farmers' attitudes towards implementing post-harvest techniques according to certain standards are quite good. Furthermore, Kembaren & Muchsin (2021) the attitude of coffee farmers is generally quite good because farmers have a good perception of innovation aimed at improving quality.

Farmers' tendencies regarding the importance of implementing GMP in post-harvest applications are very important. Implementing GMP not only gives farmers confidence that they produce safe and quality products but also helps gain consumer trust. This tendency of farmers shapes farmers' attitudes to follow various post-harvest processes carried out at the farmer level up to the distribution process at the next institution (Baihaqi et al., 2022).

1) Post-harvest skills

Farmers' post-harvest skills include a series of techniques and practices needed to manage coffee crops after the harvest process. This skill is a technical action to carry out post-harvest techniques in accordance with GMP standards. This skill is a follow-up after farmers have knowledge and attitudes. When knowledge and attitudes are positive, the actions taken by farmers also tend to be positive (Bandangan, 2022).

The skills of farmers in Cilimus District in post-harvest handling have a percentage of 50.86% so they are classified as quite good. These results are in accordance with Kembaren & Muchsin (2021) who stated that the condition of farmers' skills in post-harvest handling of coffee is in the good category, this indicates that farmers can sort coffee beans and maintain cleanliness at each post-harvest stage. In addition, Santoso et al. (2022) also stated that farmers have the skills to apply post-harvest techniques according to applicable standards for various market purposes.

Farmers who implement sanitation and hygiene procedures, in accordance with GMP standards, demonstrate seriousness and commitment to maintaining post-harvest product quality. Implementing GMP helps farmers reduce the risk of contamination, ensure product safety and cleanliness, and minimize losses in product quality and value. Farmers who are skilled in pest control, disease, transportation, storage, and handling emergency situations also demonstrate readiness to face various challenges. Consistency in implementing GMP at each post-harvest stage reflects the farmer's commitment to overall product quality.

CONCLUSION

Based on the results and discussion, this research has several conclusions, namely: Farmer behavior in applying harvest techniques according to GMT quality consists of knowledge, attitudes and skills, each of which is categorized as quite good. Farmers' behavior in implementing post-harvest according to GMT quality consists of knowledge in the good category, attitudes and skills in the quite good category.

REFERENCES

- Andika, M., Yusriana, Y., & Rasdiansyah, R. (2023). Analisis Preferensi Terhadap Produk Minuman Kopi Menggunakan Metode Multi-Objective Optimization On The Basis Of Ratio Analysis (Studi Kasus Pada Warung Kopi Sabi Coffee Space Di Kota Langsa). *Jurnal Ilmiah Mahasiswa Pertanian*, 8(3).
- Aziz, S., Isyanto, A. Y., & Puspitasari, A. (2020). Penguatan Kapasitas Petani Kopi Dalam Penanganan Pasca Panen Kopi Robusta Di Desa Sagalaherang Kecamatan Pawanangan Kabupaten Ciamis. *Abdimas Galuh*, 2(2), 152–157.
- Bandangan, H. (2022). Perilaku Petani Dalam Menghadapi Panen Dan Pasca Panen Kopi Robusta Di Dusun Pauan, Kecamatan Masanda, Kabupaten Tana Toraja.
- Budiman, H. (2012). *Prospek Tinggi Bertanam Kopi*. Yogyakarta. Pustaka Baru Press.

- Erawati, S. H., Agasi, M. D. R., & Tachjuddin, T. (2021). Determinan Keputusan Pembelian Dalam Bisnis Coffee Shop. *Maneggio: Jurnal Ilmiah Magister Manajemen*, 4(2), 268–274.
- Herminingsih, H., Aji, J. M. M., & Avivi, S. (2020). Manajemen Dan Standarisasi Mutu Kopi Rakyat Organik. *Sumber*, 757290, 823.
- Hutasoit, M. F., Prasmatiwi, F. E., & Suryani, A. (2020). Pendapatan Dan Tingkat Kesejahteraan Rumah Tangga Petani Kopi Di Kecamatan Ulu Belu Kabupaten Tanggamus. *Jurnal Ilmu-Ilmu Agribisnis*, 7(3), 346–353.
- Kansrini, Y., Febrimeli, D., & Mulyani, P. W. (2020). Tingkat Adopsi Budidaya Yang Baik (Good Agriculture Practices) Tanaman Kopi Arabika Oleh Petani Di Kabupaten Tapanuli Selatan. *Paradigma Agribisnis*, 3(1), 36–49.
- Kembaren, E. T., & Muchsin, M. (2021). Pengelolaan Pasca Panen Kopi Arabika Gayo Aceh. *Jurnal Visioner & Strategis*, 10(1).
- Latan, H., & Ghozali, I. (2017). *Partial Least Squares: Konsep, Metode Dan Aplikasi Menggunakan Program Warppls 5.0 (Third Edit)*. Semarang: Badan Penerbit Universitas Diponegoro.
- Prajogo, U., Lutfi, M., Liana, Y., & Adi, S. (2020). Evaluation Of Post-Harvest Coffee To Conform With Good Manufacturing Practices (GMP) To Develop Entrepreneurship. *IOP Conference Series: Earth And Environmental Science*, 475(1), 12046. IOP Publishing.
- Rafsanjani, M. A. (2022). Sebiji Kopi Ditangan Petani, Secangkir Kopi Ditangan Barista: Kajian Mengenai Barista Dan Perannya Dalam Budaya Kopi Di Jogja. *Journal Sosiologi*, 5(1), 29–36.
- Santoso, T. A., Dalmiyatun, T., & Prayoga, K. (2022). Hubungan Perilaku Petani Dengan Adopsi Teknologi Pasca Panen Kopi Robusta Di Kabupaten Temanggung. *Vigor: Jurnal Ilmu Pertanian Tropika Dan Subtropika*, 6(1), 22–32.
- Sari, E. P., Hasugian, H., & Harahap, M. I. (2023). Implikasi Kebijakan Ekspor Kelapa Sawit Terhadap Perekonomian Indonesia Dalam Perspektif Ekonomi Islam. *Brilliant: Journal Of Islamic Economics And Finance*, 1(2), 212–237.
- Sefrianto, A. W., & Handayani, E. N. (2021). Analisis Sikap Konsumen Akan Citra Merek Dan Kualitas Produk Pada Pengkonsumsi Kopi Sachet Indocafe Di Kota Jakarta Timur. *Kelola*, 8(2), 78–94.
- Siregar, S. (2017). *Statistik Parametrik Untuk Penelitian*.
- Sumule, O., & Larekeng, H. (2021). Penerapan Teknik Panen Dan Pascapanen Kopi Arabika Kalosi Produk Unggulan Kabupaten Enrekang. *Jurnal Dinamika Pengabdian (JDP)*, 6(2), 341–348.
- Taufani, A. R. (2020). Budaya Pecinta Kopi Dan Gaya Hidup Urban Kedai Kopi Di Surabaya: Analisis Visual Semiotika Spasial. *Medkom: Jurnal Media Dan Komunikasi*, 1, 23–39.
- Udayana, I. (2011). Peran Agroindustri Dalam Pembangunan Pertanian. *Singhadwala*, 44, 3–8.
- Wachdijono, W., & Yahya, A. C. (2021). Persepsi Konsumen Terhadap Keberadaan Coffee Shop Dan Barista Pada Era Pemasaran Kopi Ke Tiga. *Paradigma Agribisnis*, 4(1), 11–24.
- Wibowo, A. (2019). Potensi Dan Tantangan Kopi Di Era Milenial. *Warta Pusat Penelitian Kopi Dan Kakao Indonesia*, 31(2), 16–23.
- Yurisinthae, E., & Suharyani, A. (2023). Analisis Efisiensi Pemasaran Kopi Lokal Di Desa Punggur Besar Kecamatan Sungai Kakap Kabupaten Kuburaya. *Jurnal Ekonomi Pertanian Dan Agribisnis*, 7(4), 1328–1340.

Copyright holders:

**Abdullah Al Azis, Dadan Dwi Pratama, Reza Zaini Fadhilah, Dwi Purnomo, Dodi
Budirokhman (2024)**

First publication right:

Injurity - Interdisciplinary Journal and Humanity



**This article is licensed under a Creative Commons Attribution-ShareAlike 4.0
International**