

## Factors Influencing Oil Palm Plantation Companies' Disclosure of Biological Assets

Tio Sandela Nugroho<sup>1</sup>, Kunti Sunaryo<sup>2\*</sup>

Faculty of Economics and Business, UPN "Veteran" Yogyakarta<sup>1,2</sup>  
Jl. Padjajaran Condongcatur, Sleman, Yogyakarta 55283, Indonesia

Corresponding Email: [kunti.sunaryo@upnyk.ac.id](mailto:kunti.sunaryo@upnyk.ac.id)<sup>2</sup>

ORCID ID: <https://orcid.org/0000-0003-4527-7954><sup>2</sup>

### ARTICLE INFORMATION

#### Publication information

#### Research article

#### HOW TO CITE

Nugroho, T. S., & Sunaryo, K. (2025). Factors influencing oil palm plantation companies' disclosure of biological assets. *International Journal of Accounting & Finance in Asia Pasific*, 8(1), 18-33.

#### DOI:

<https://doi.org/10.32535/ijafap.v8i1.3649>

Copyright © 2025 owned by Author(s).  
Published by IJAFAP



This is an open-access article.

License:

Attribution-Noncommercial-Share Alike (CC BY-NC-SA)

Received: 18 December 2024

Accepted: 20 January 2025

Published: 20 February 2025

### ABSTRACT

Complete regulations regarding biological assets are contained in the PSAK 69 Statement which adopts the provisions of IAS 41. This research aims to provide empirical evidence regarding the influence of biological asset intensity, growth, public ownership, type of public accounting firm (KAP), and internationalization level on biological asset disclosure. The population in this study were oil palm plantation companies listed on the Indonesia Stock Exchange (IDX) in the period 2018 to 2022. The sample was selected using a purposive sampling method, and from the specified criteria, 14 companies were selected with a total of 70 observation data. This research is a quantitative study using secondary data, which is then analyzed using the multiple regression method. The research results show that the intensity of biological assets has a positive effect, while the level of internationalization has a negative effect on the disclosure of biological assets in oil palm plantation companies listed on the IDX in 2018-2022. However, the variables of company growth, public ownership, and type of KAP had no effect on the disclosure of biological assets in oil palm plantation companies in that period. This research implies that oil palm plantation companies with higher biological asset intensity are more likely to disclose biological assets, while internationalization negatively impacts such disclosure practices.

**Keywords:** Biological Asset Intensity; Company Growth; Disclosure of Biological Assets; KAP Internationalization Level; Public Ownership

## INTRODUCTION

As a country with abundant natural resources, Indonesia should be able to increase the export of agricultural products to develop the country's economy. The agricultural sector plays a very important role in Indonesia's economic activity. In 2022, the agricultural sector will be the third largest contributor to the Gross Domestic Product (GDP) with 12.40% after the manufacturing sector with 18.34% and the wholesale and retail trade, repair of motor vehicles and motorcycles sector with 12.85% ([Central Agency of Statistics Indonesia \[BPS Indonesia\], 2023](#)).

The contribution of the plantation sector is dominated by palm oil products, which are the main non-oil and gas commodity. The contribution of palm oil exports in 2022 was the second largest after coal, contributing USD 29,628.1 million or 10.15 percent of non-oil and gas exports ([BPS Indonesia, 2023](#)). In addition, the contribution of palm oil based on data from the US Department of Agriculture, in 2022 Indonesia became the country with the largest palm oil producer in the world with a total production of 45.5 million metric tons or 59% of the total world palm oil production, and the second place was occupied by Malaysia with 18.8 million metric tons, while other countries were less than 3.26 million metric tons ([Kusnandar, 2023](#)).

Palm oil is the vegetable oil with the largest global consumption, surpassing other oil sources. Global palm oil consumption from 2017 to 2022 is over 50 million metric tons. Palm oil consumption from 2021 to 2022 is now estimated at 73.87 million metric tons, up from 73.22 million metric tons in 2020/2021. The surge in palm oil consumption was seen before the pandemic in 2018/2019, when it reached 71.15 million metric tons, up from 65.99 million metric tons in the previous period ([Mutia, 2022](#)). Based on this explanation, it is clear that the palm oil plantation industry has promising prospects in the future. Therefore, it is important to make disclosure, especially on biological assets. Good disclosure can attract more investors, demonstrate transparency to potential investors, and allow companies to develop better. It can also increase the confidence of the public and interested shareholders.

According to Statement of Financial Accounting Standards Standard 69 (PSAK 69 in [Indonesian Institute of Accountants \[IAI\], 2020](#)), biological assets include live animals or plants as well as products that grow on productive plants. Biological assets have a unique characteristic, which is biological transformation. Transformation means that biological assets are assets that undergo biological processes, such as growth and reproduction, before eventually dying and ceasing to produce ([Scarvino et al., 2021](#)). This biological asset is what distinguishes the plantation industry from other sectors. For example, oil palm plantation companies whose main industrial purpose is the processing of oil palm crops, are known as fresh fruit bunches ([Rachmawati & Oktariyani, 2019](#)). In the oil palm plantation industry, the oil palm trees themselves are included in the biological assets.

PSAK 69 ([IAI, 2020](#)) outlines specific disclosure requirements for biological assets, providing a basis for evaluating the extent of information oil palm plantation companies release regarding these assets over a specific period. This primary goal of disclosing biological assets is to fulfill stakeholders' and investors' information needs about how oil palm companies manage their agricultural resources. Despite being in 2018, several Indonesian oil palm companies have yet to fully disclose biological assets in their financial reports. This delay in PSAK 69's application among agricultural firms contributes to incomplete disclosure. As of 2022, six companies - Golden Plantations Tbk (GOLL), Multi Agro Gemilang Plantation Tbk (MAGP), Teladan Prima Agro Tbk (TLDN), Andira Agro Tbk (ANDI), Menthobi Karyatama Raya TBK (MKTR), and Citra

Borneo Utama Tbk (CBUT) – remain without biological assets disclosures, raising concerns for investors.

In Indonesia, studies examining factors influencing biological assets disclosure remain limited. [Wahid et al. \(2020\)](#) discuss the accounting treatment of biological assets based on the perspective of SAK-ETAP with a case study on a dairy farm in Batu City. This research aims to evaluate the recognition, measurement, reporting, and disclosure of biological assets at the farm. Financial reporting at the farm has not been in accordance with SAK-ETAP standards, which leads to a lack of relevance and transparency in financial information. [Lestari et al. \(2020\)](#) investigated fair value versus the history of biological assets. This study compares the effect of fair value measurement and historical value of biological assets on earnings smoothing practices in agricultural companies in Southeast Asia and Australia. The results show that the use of fair value does not significantly affect earnings smoothing, while historical value has a positive effect on earnings smoothing. Factors such as high investor protection and the implementation of good corporate governance (GCG) in a particular country influence these results. This article suggests that investors consider economic and regulatory conditions in addition to financial statements in making investment decisions.

[Suhardjo et al. \(2024\)](#) discuss the disclosure of biological assets, downstream practices, and global economic factors on the sustainable growth of agricultural companies in Indonesia, and examine the moderating role of the educational background of board members. The research methodology uses panel data analysis of annual reports of agricultural companies listed on the Indonesia Stock Exchange or IDX (2017-2022), with regression analysis. The results show that disclosure of biological assets has a negative effect on sustainable growth, while downstream practices and global economic factors have a significant positive contribution. Meanwhile, the educational background of the board of directors was not found to moderate the relationship between the disclosure of biological assets, downstream practices, and global economic factors on the level of sustainable growth. [Kamaludin et al. \(2023\)](#) analyze the sustainability of independent oil palm plantations in Sintang District, West Kalimantan, by considering economic, social, environmental, institutional, and technological factors. The research used quantitative methods with analysis. The conclusion of the research is that independent oil palm plantations in Sintang have a fairly good sustainability status, but improvement is needed on sensitive attributes to maintain sustainability, including access to technology, training, and institutional support from the government.

Research on biological assets with a different approach was carried out by [Lainawa et al. \(2024\)](#) on the decline of agricultural land in North Minahasa Regency due to land fragmentation, which affects the welfare of farmers. The Integrated Farming System (IFS) based on LEISA (Low External Input Sustainable Agriculture) was designed as a solution to increase the productivity and sustainability of agriculture, livestock, and fisheries. The first research objective was to analyze the economic, environmental, and social feasibility of integrated farming systems in North Minahasa Regency. The second was to develop a strategy for an integrated farming model that promotes sustainability and farmer welfare. Research by [Ika et al. \(2024\)](#) analyzes whether reporting on biological and economic assets and corporate sustainability affects firm value. According to the PSAK 69 ([IAI, 2020](#)), companies are required to disclose. The method of recognizing and measuring the fair value of assets related to living things, such as plants or animals. The study used 56 listed agricultural companies from 2017 to 2020 as a sample and regression analysis for data analysis. The results show that the disclosure of biological assets does not affect company value, but instead, economic sustainability and other financial indicators such as profitability and debt levels affect company value. The results suggest that the reputation of an agricultural company in the eyes of

shareholders depends on its economic sustainability and not on the disclosure of information about its biological assets. This study provides insight into the non-value relevance of biological asset reporting in the Indonesian context.

Research by [Alfarisyi et al. \(2022\)](#) aims to determine whether the value of biological assets, measured by fair value and disclosure of biological assets, has an impact on firm value. The study sample consists of agricultural companies listed on the IDX between 2018 and 2020. Based on 51 firm-year observations using multivariate analysis, this study found that the value of biological assets measured by their fair value has a significant positive effect on firm value, and the level of disclosure of biological assets also has an effect on firm value. The control variables, namely profitability, leverage, and growth, have a significant effect on firm value. This study provides a new perspective and empirical evidence on the research topic because this study focuses on the impact of the implementation of the PSAK 69, which regulates the fair value of assets and disclosure of biological assets, on firm value.

This research focuses on several factors affecting biological asset disclosure, including biological asset intensity, company growth, type of public accounting firm (KAP), and internationalization level. Studies by [Aminah et al. \(2022\)](#), [Azzahra et al. \(2020\)](#), and [Carolina & Kusmawati \(2020\)](#) indicate that biological assets intensity positively impacts disclosure, while other studies, like those by [Owen & Radianto \(2022\)](#) and [Sa'diyah et al. \(2019\)](#) suggest a negative impact. Research by [Alfiani & Rahmawati \(2019\)](#), [Sriyuniarti & Andriani \(2022\)](#), and [Scarvino et al. \(2021\)](#) found no significant impact of biological assets intensity on disclosure.

Company growth also appears influential. Studies by [Aminah et al. \(2022\)](#) and [Hayati & Serly \(2020\)](#) suggest growth positively affects disclosure, while findings by [Alfiani & Rahmawati \(2019\)](#), and [Fitriasuri & Putri \(2022\)](#) report no effect. Public ownership is another factor, with [Azzahra et al. \(2020\)](#) noting a positive effect, while [Aminah et al. \(2022\)](#) report a negative effect, and [Putri et al. \(2023\)](#) found no effect.

The KAP type also influences disclosure. Research by [Alfiani & Rahmawati \(2019\)](#) and [Aminah et al. \(2022\)](#) shows a positive effect, while [Fitriasuri & Putri \(2022\)](#) suggest a negative effect. Studies by [Carolina & Kusmawati \(2020\)](#) and [Scarvino et al. \(2021\)](#) found no effect on the disclosure of biological assets.

Lastly, the level of internationalization, or foreign activity engagement, is linked to a greater stakeholder base, prompting higher disclosure needs ([Sa'diyah et al., 2019](#)). Research by [Sriyuniarti and Andriani \(2022\)](#) suggests internationalization positively influences the disclosure of biological assets, while the research by [Hayati & Serly \(2020\)](#) and [Sa'diyah et al. \(2019\)](#) report a negative effect. Conversely, [Santoso and Handayani \(2021\)](#) found no significant impact on the disclosure of biological assets.

The results of several researchers above show the inconsistency of the results of research on the factors influencing the disclosure of biological assets, so researchers are interested in re-examining the factors influencing the disclosure of biological assets. The purpose of this study is to examine the effect of biological asset intensity, company growth, public ownership, type of KAP, and level of internationalization on biological asset disclosure.

Research into the factors that influence the disclosure of biological assets can contribute to improving the quality of financial reporting, making the right decisions, and developing the science, particularly in relation to the disclosure of biological assets. Information about biological assets disclosed by companies can help improve the quality of financial

reporting and meet the needs of users of financial statements. On the basis of this information, investors, creditors, and other parties can make more informed decisions by taking into account the value of biological assets. Finally, this research can be a reference for future researchers to develop other factors that influence the disclosure of biological assets.

## LITERATURE REVIEW

### Agency Theory and Stakeholder Theory

[Jensen and Meckling \(2019\)](#) posit that agency theory characterizes shareholders as principals and management as agents. Shareholders hire management to act in their best interest, granting them the authority to make decisions that benefit shareholders. However, management, as the company's leader, often possesses more information about the business, including its future prospects, which can lead to discrepancies between the information shared and the company's actual condition—a phenomenon known as information asymmetry. Moreover, managers (agents) may pursue personal gains, seeking to maximize their own welfare, which can result in conflicts of interest, known as agency conflicts.

[Freeman and McVea \(2005\)](#) introduced stakeholder theory, which emphasizes that organizations should not only focus on their own goals but also consider the interests of various stakeholders such as investors, creditors, customers, suppliers, governments, and communities. This theory asserts that a business should create value not only for itself but also for its stakeholders. Stakeholders encompass more than just shareholders; they include broader groups such as society and the environment. A company's long-term success is closely tied to stakeholder satisfaction. Consequently, management strives to meet stakeholder expectations by implementing strategies that secure their support. The theory states that each stakeholder has the right to understand the impact of their activities on the organization. Therefore, building relationships with stakeholders who have a significant impact on the company's resources becomes very important for the overall business continuity of the company. One of the ways that management can do this is through disclosure, which covers the economic, social, and environmental aspects of the business. In the agricultural sector, disclosure of information about biological assets is intended to meet the information needs of stakeholders in order to maintain the continuity of the company's business ([Suhardjo et al., 2024](#)).

### Biological Asset Intensity and Biological Asset Disclosure

The intensity of biological assets refers to the proportion of an agricultural company's investment allocated to biological assets, as recorded in the financial statement notes ([Alfiani & Rahmawati, 2019](#)). This metric reflects the extent to which resources are invested in biological assets. The relationship between the biological assets intensity and the disclosure of biological assets aligns with the signaling theory, which suggests that transparent disclosure sends positive signals to stakeholders, including investors. According to [Aminah et al. \(2022\)](#), explain that such disclosure enables stakeholders to assess the condition of biological assets, evaluate business potential, and devise strategies for future improvement. As the value of biological assets rises, companies are more likely to provide detailed disclosure. Studies by [Aminah et al. \(2022\)](#), [Azzahra et al. \(2020\)](#), and [Carolina & Kusmawati \(2020\)](#) indicate that biological assets intensity positively influences disclosure. Hence, the first hypothesis is formulated as follows:

H1: The intensity of biological assets affects the disclosure of biological assets.



### **Company Growth and Biological Asset Disclosure**

Corporate growth in oil palm plantation companies is the ability of the company to increase its assets, particularly the company's biological assets. Companies that experience high growth will receive more attention, especially from parties such as investors. Therefore, companies that experience high growth are likely to provide more disclosure ([Fitriasuri & Putri, 2022](#)). Biological assets owned exclusively by agricultural companies are important information to disclose. This information is useful for stakeholders to know the fair value of these biological assets according to their contribution to generating cash flows. According to stakeholder theory, each stakeholder has the right to know all information about the organization's activities that may affect his or her position ([Deegan, 2004](#)). The results of the research conducted by [Aminah et al. \(2022\)](#) and [Hayati & Serly \(2020\)](#) show that company growth has a positive effect on the disclosure of biological assets. Based on the previous description, the researcher argues that the higher the level of company growth, the higher the level of disclosure, so the second hypothesis can be formulated as follows:

H2: Company growth affects the disclosure of biological assets.

### **Public Ownership and Biological Asset Disclosure**

Agricultural companies listed on the IDX also make their shares available to the public, with a significant portion held by the public. This is commonly referred to as public ownership ([Azzahra et al., 2020](#)). Apart from public ownership, there is managerial ownership. Sonya and Madjid in [Zulaecha et al. \(2021\)](#) state that managerial ownership is ownership of shares from management who actively participate in decision-making in the company, for example, directors and commissioners. According to Riski et al. in [Zulaecha et al. \(2021\)](#), ownership concentration is a group of controllers over the company's business activities. Public trust in a company is reflected in the large percentage of shares held by the public. Public shareholders require comprehensive information about the company's operations. To meet this need, companies increase both mandatory and voluntary disclosures. According to stakeholder theory, the public, as a key stakeholder, has the right to access relevant information about a company's activities that may impact their interests. Research by [Azzahra et al. \(2020\)](#) highlights the influence of public ownership on biological asset disclosure. Based on these findings, it is suggested that higher public ownership leads to greater disclosure of biological assets, particularly in oil palm plantation companies. Therefore, the third hypothesis is as follows:

H3: Public ownership influences disclosure of biological assets.

### **Types of KAP and Disclosure of Biological Assets**

It is very difficult for companies operating under agency theory not to have agency costs, as both principals and agents are considered to be *homo economicus* (economic man), maximizing their respective profits. In the private sector, audit services are provided by the KAP. Most companies that go public generally choose to use the services of the Big Four KAP because they are considered to have a better reputation than the non-Big Four KAP. In general, the public believes that audit reports issued by Big Four KAP have a high level of trust. In the case of agricultural companies, the Big Four KAP tend to have more experience with the disclosure of biological assets in agricultural companies because they are accustomed to performing audits for companies based in countries that were the first to adopt IAS 41: Agriculture, which was adopted as PSAK 69 Agriculture. According to the findings of [Alfiani & Rahmawati \(2019\)](#) and [Aminah et al. \(2022\)](#), the type of KAP has a positive effect on the disclosure of biological assets. Companies that use the Big Four KAP services will result in a high level of disclosure of biological assets

by oil palm plantation companies. Therefore, the fourth hypothesis is formulated as follows:

H4: The type of KAP affects the disclosure of biological assets.

### Level of Internationalization and Disclosure of Biological Assets

The degree of internationalization signifies the extent of a company's foreign activities. International companies are those that begin to expand operations abroad including in areas such as marketing, establishing manufacturing facilities, and other ventures while maintaining a primary focus on domestic business (Hayati & Serly, 2020). For oil palm plantation companies operating internationally, the number of stakeholders naturally increases. Consequently, these internationally oriented companies are expected to enhance the transparency of their financial disclosure (Sa'diyah et al., 2019). This expectation aligns with the stakeholder theory, which posits that stakeholders are entitled to access information regarding company activities that could impact their interests. Supporting this, research by Sriyuni and Andriani (2022) indicates that a higher level of internationalization positively influences the disclosure of biological assets. As companies become more internationalized, their level of biological assets disclosure also tends to increase, leading to the formulation of the fifth hypothesis as follows:

H5: The level of internationalization affects the disclosure of biological assets.

## RESEARCH METHOD

### Research Population and Sample

The population in this study was all oil palm plantation companies listed on the Indonesia Stock Exchange (IDX) in 2018-2022. The sampling method used in this study was purposive sampling, which is a sampling method by setting the following criteria in Table 1.

**Table 1.** Research Sample

Sample Criteria		Amount
1	All oil palm plantation companies listed on the IDX for the period 2018 - 2022.	27
2	Oil palm plantation companies that did not publish annual reports consecutively during the period 2018 - 2022	(8)
3	Oil palm plantation companies that do not include the value of biological assets in their financial statements for the period 2018 - 2022.	(5)
Companies selected as sample		14
Total observation data (14 companies x 5 years)		70

### Research Variables

The dependent variable of this study is the disclosure of biological assets as measured by the Wallace disclosure index formula. Each item disclosed in the annual report is assigned a value of 1 (one), and if the item is not disclosed, it is assigned a value of 0 (zero).

The independent variables in this study include biological asset intensity, which is measured by referring to the percentage of the company's investment allocated to biological assets. The second variable is company growth, which is measured by calculating the total assets of the current period minus the total assets of the previous period and then dividing by the total assets of the previous period. The third variable is public ownership, which is measured by the total percentage of ownership by individual investors who are not part of the company's management and have no special

relationship with the company. The fourth variable is the type of KAP, which is measured by a dummy variable. If the company is audited by a Big Four KAP, the value is 1, while if the company is audited by a non-Big Four KAP, the value is 0. The fifth variable is the degree of internationalization, measured by the ratio of foreign sales to total sales.

### Hypothesis Testing

To test the research hypothesis, multiple linear regression analysis is used with the following regression equation:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + e$$

Description:

Y = Biological Asset Disclosure

$\alpha$  = Constant

X1 = Biological Asset Intensity

X2 = Company Growth

X3 = Public Ownership

X4 = Type of KAP

X5 = Internationalization Level

$\beta$  = Regression coefficient

## RESULTS

### Descriptive Statistical Analysis

The results of descriptive statistical analysis can be explained as follows:

**Table 2.** Descriptive Statistics (N =70)

Construct	Min.	Max.	M	SD
Biological Asset Disclosure	0.50	0.68	0.6007	0.03782
Biological Asset Intensity	0.04	0.69	0.3586	0.17189
Company Growth	-0.45	0.39	0.0172	0.12209
Public Ownership	0.08	0.61	0.2920	0.13759
Internationalization Level	0.00	0.56	0.0914	0.15610

Note. M = Mean, SD = Standard Deviation.

Based on the results of descriptive statistical analysis in [Table 2](#), the disclosure of biological assets has a minimum value of 0.50, a maximum value of 0.68, and a mean value of 0.6007. Biological asset intensity has a minimum value of 0.04, a maximum value of 0.69, and a mean value of 0.3586. Company growth has a minimum value of -0.45, a maximum value of 0.39, and a mean value of 0.0172. Public ownership has a minimum value of 0.08, a maximum value of 0.61, and a mean value of 0.2920. The level of internationalization has a minimum value of 0, a maximum value of 0.56, and a mean value of 0.0914.

### Normality Test

The normality test uses the Monte Carlo exact test to detect the normality of the data distribution with the following results:

**Table 3.** Normality Test Results with Monte Carlo Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test		
Unstandardized Residual		
N		70
Normal Parameters <sup>a,b</sup>	Mean	0.0000000
	Std. Deviation	0.02741370



Most Extreme Differences	Absolute		0.117
	Positive		0.103
	Negative		-0.117
Test Statistic			0.117
Asymp. Sig. (2-tailed)			0.020 <sup>c</sup>
Monte Carlo Sig. (2- tailed)	Sig.		0.282 <sup>d</sup>
	95% Confidence Interval	Lower Bound	0.273
		Upper Bound	0.291

Based on [Table 3](#), the results of the Kolmogorov-Smirnov Monte Carlo test performed obtained a significance value of 0.282 greater than 0.05, which means that the data are normally distributed.

### Multicollinearity Test

Multicollinearity test by looking at the tolerance value and the variance inflation factor (VIF). If the VIF value is  $< 10$  and the tolerance value is  $> 0.10$ , it is said that there is no multicollinearity, if the VIF value is less than 10 and the tolerance value is more than 0.10. The results of the multicollinearity test are shown below:

**Table 4.** Multicollinearity Test Result

Model		Collinearity Statistics	
		Tolerance	VIF
(Constant)			
1	Biological Asset Intensity	0.536	1.864
2	Company Growth	0.816	1.225
3	Public Ownership	0.844	1.185
4	Type of Public Accounting Firm (KAP)	0.804	1.244
5	Internationalization Level	0.538	1.859

Based on the results of the multicollinearity test in [Table 4](#), the tolerance value for the biological asset intensity variable is  $0.536 > 0.1$  with a VIF value of  $1.864 < 10$ . The tolerance value for the company growth variable is  $0.816 > 0.1$  with a VIF value of  $1.225 < 10$ . The tolerance value for the public ownership variable is  $0.844 > 0.1$  with a VIF value of  $1.185 < 10$ . The tolerance value for the KAP type variable is  $0.804 > 0.1$  with a VIF value of  $1.244 < 10$ . The tolerance value for the internationalization level variable is  $0.538 > 0.1$  with a VIF value of  $1.859 < 10$ . Based on these results, it can be concluded that there is no multicollinearity in the regression model of this study.

### Autocorrelation Test

**Table 5.** Autocorrelation Test Result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.534 <sup>a</sup>	0.285	0.228	0.02516	1.900

The results of the autocorrelation test using the Corchane-Orcutt method in [Table 5](#) obtained a DW value of 1.900. The dU and dL values from the Durbin-Watson table with a significance level of 0.05 are 1.7683 and 1.4637. The test criteria are  $dU < d < (4-dU)$ , and the autocorrelation test results show that the value of  $dU (1.7683) < d (1.080) < 4-dU (2.2317)$ . Based on these results, it can be interpreted that there are no autocorrelation symptoms.

### Heteroscedasticity Test

The test of heteroscedasticity is performed using Spearman's rank method, where if the significance value is  $> 0.05$ , it is concluded that there is no heteroscedasticity problem. The results of the heteroscedasticity test are shown below:

**Table 6.** Heteroscedasticity Test

		BAI	CG	PO	TKAP	IL	UR
BAI	Correlation Coefficient	1.000	-0.270*	0.249*	0.152	-0.475*	-0.034
	Sig (2-tailed)		0.024	0.038	0.208	0.000	0.778
	N	70	70	70	70	70	70
CG	Correlation Coefficient	-0.270	1.000	-0.043	0.169	0.164	-0.049
	Sig (2-tailed)	0.024		0.721	0.161	0.176	0.687
	N	70	70	70	70	70	70
PO	Correlation Coefficient	-0.249*	-0.043	1.000	-0.211	0.011	-0.010
	Sig (2-tailed)	0.038	0.721		0.079	0.928	0.933
	N	70	70	70	70	70	70
TKAP	Correlation Coefficient	0.152	0.169	-0.211	1.000	-0.120	0.001
	Sig (2-tailed)	0.208	0.161	0.079		0.324	0.995
	N	70	70	70	70	70	70
IL	Correlation Coefficient	-0.475	0.164	0.011	-0.120	1.000	0.093
	Sig (2-tailed)	0.000	0.176	0.928	0.324		0.444
	N	70	70	70	70	70	70
UR	Correlation Coefficient	-0.034	-0.049	-0.010	0.001	0.093	1.000
	Sig (2-tailed)	0.778	0.687	0.933	0.995	0.444	
	N	70	70	70	70	70	70

Note: BAI = Biological Asset Intensity, CG = Company Growth, PO = Public Ownership, TKAP = Type of Public Accounting Firm, IL = Internationalization Level, UR = Unstandardized Residual

Based on the results of the heteroscedasticity test in [Table 6](#), the significance value of the biological asset intensity variable is  $0.778 > 0.05$ , the significance value of the company growth variable is  $0.687 > 0.05$ , the significance value of the public ownership variable is  $0.933 > 0.05$ , the significance value of the KAP type variable is  $0.995 > 0.05$  and the significance value of the internationalization level variable is  $0.444 > 0.05$ . Thus, all variables do not have heteroscedasticity problems.

### Multiple Regression Analysis Results

The following are the test results using multiple linear regression analysis.

**Table 7.** Regression Results Between Biological Asset Intensity, Growth, Public Ownership, Type of KAP, Internationalization Level, and Disclosure of Biological Assets

ANOVA						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.047	5	0.009	11.567	0.000 <sup>b</sup>
	Residual	0.052	64	0.001		
	Total	0.099	69			

Predictors: (Constant), Biological Asset Intensity, Company Growth, Public Ownership, Type of KAP, Internationalization Level
Dependent Variable: Disclosure of Biological Assets

**Table 8.** Regression Results Between Biological Asset Intensity, Growth, Public Ownership, Type of KAP, Internationalization Level, and Disclosure of Biological Assets

Model Summary				
Model	R	R Square	Adjusted RSquare	Std. Error of the Estimate
1	0.689 <sup>a</sup>	0.475	0.434	0.02846
a. Predictors: (Constant), Biological Asset Intensity, Company Growth, Public Ownership, Type of KAP, Internationalization Level				
b. Dependent Variable: Disclosure of Biological Assets				

**Table 9.** Regression Results Between Biological Asset Intensity, Growth, Public Ownership, Type of KAP, Internationalization Level, and Disclosure of Biological Assets

Coefficient						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.574	0.018		32.476	0.000
	Disclosure of Biological Assets	0.085	0.027	0.385	3.115	0.003
	Company Growth	- 0.008	0.031	-0.026	-0.255	0.799
	Public Ownership	0.043	0.027	0.157	1.589	0.117
	Type of KAP	- 0.015	0.008	-0.197	-1.947	0.056
	Internationalization Level	- 0.091	0.030	-0.377	-3.050	0.003
a. Dependent Variable: Disclosure of Biological Assets						

Based on [Tables 7, 8, and 9](#), the F significance value of 0.000 is less than 5%, which means that the regression model in this study is fit. The adjusted R<sup>2</sup> value is 0.434, these results indicate that the independent variables, namely the intensity of biological assets, company growth, public ownership, type of KAP, and level of internationalization are able to explain the dependent variable, the disclosure of biological assets by 43.4%, while the remaining 56.6% is influenced by other independent variables outside this research model.

The significance value of the biological asset intensity variable (X1) is 0.003 < 5%, therefore the biological asset intensity variable affects the disclosure of biological assets, so the first hypothesis (H1) is accepted. The significance value of the company growth variable (X2) is 0.799 > 5%, therefore the company growth variable has no effect on the disclosure of biological assets, so the second hypothesis (H2) is not supported. The significance value of the public ownership variable (X3) is 0.117 > 5%, so it is concluded that the public ownership variable has no effect on the disclosure of biological assets, so the third hypothesis (H3) is not supported. The significance value of the KAP type variable (X4) is 0.056 > 5%, thus the KAP type variable has no effect on the disclosure of biological assets so the fourth hypothesis (H4) is not supported. The significance value of the Internationalization Level variable (X5) is 0.003 < 5%, so it is concluded that the biological asset intensity variable affects the disclosure of biological assets, so the fifth hypothesis (H5) is accepted.

## DISCUSSION

Based on the results of the hypothesis testing, the intensity of biological assets positively influences the disclosure of biological assets, confirming H1. This positive relationship arises because biological assets serve as the primary assets for oil palm plantation companies. Therefore, a higher proportion of biological assets leads to more comprehensive disclosure. This finding aligns with the study by [Aminah et al. \(2022\)](#) which also highlights that the intensity of biological assets positively affects their disclosure. Since biological assets are the core assets of oil palm plantation companies, their intensity reflects the degree of disclosure, implying that greater intensity corresponds to more extensive reporting. Furthermore, this study's findings are consistent with those of [Azzahra et al. \(2020\)](#), [Carolina & Kusmawati \(2020\)](#), [Fitriasuri & Putri \(2022\)](#), and [Putri et al. \(2023\)](#).

The company growth variable has no effect on the disclosure of biological assets, rejecting H2. This is because investors or stakeholders consider the company's performance in generating profits more than how much the company's growth rate is in the decision-making process to invest in oil palm plantation companies because the high level of company growth does not guarantee the company's ability to earn profits, especially the company's growth is assessed based on total assets where in these total assets there are fixed assets with low liquidity levels so that investors or stakeholders certainly choose companies that can generate more profits in the hope that investors will get the same great results. This causes investors not to pay attention to the growth and development of the company, and the company does not respond to the increase or decrease in the level of company growth, so the extent of disclosure of biological assets will not be affected when the value of company growth increases or decreases. The results of this study are consistent with the studies conducted by [Alfiani & Rahmawati \(2019\)](#), [Carolina & Kusmawati \(2020\)](#), [Fitriasuri & Putri \(2022\)](#), [Santoso & Handayani \(2021\)](#), and [Sriyuniarti & Andriani \(2022\)](#) which found that the growth of the company has no effect on the disclosure of biological assets.

The increase in public shareholdings is not enough to encourage oil palm plantation companies to fully disclose their biological assets, rejecting H3. This is because the average public shareholding in oil palm plantation companies is still low at only 29%. In addition, the observation data in this study found that companies with the highest value of public share ownership only disclose their biological assets by 57.5%. Between 2018 and 2022, many oil palm plantation companies did not experience an increase in the proportion of public share ownership. Thus, companies may lose the motivation to disclose their assets more fully, as there is no opportunity to increase the proportion of public share ownership. The findings of this study are consistent with the research of [Putri et al. \(2023\)](#), which states that public ownership does not affect the high and low voluntary disclosure of companies.

The use of Big Four auditors or their affiliates does not guarantee that companies will provide full disclosure of biological assets, and conversely, the use of non-Big Four KAP services does not automatically result in reduced disclosure of biological assets in oil palm plantation companies. The results of this study reject H4. Independent auditors tend to place less emphasis on the disclosure of biological assets in their reports. Although some independent auditors' reports include information on biological assets, they focus more on the measurement methods used by the companies, which may or may not be consistent with standards, rather than on the details of the disclosure. As a result, neither Big Four nor non-Big Four auditors have the ability to influence companies regarding the disclosure of biological assets. The results of this study are consistent with the findings of [Carolina & Kusmawati \(2020\)](#) and [Scarvino et al. \(2021\)](#) that the type of KAP has no effect on the disclosure of biological assets.

The level of internationalization has a negative effect on the disclosure of biological assets, accepting H5. This means that the lower the level of internationalization, the higher the level of biological asset disclosure of oil palm plantation companies. The high level of internationalization does not guarantee that these companies provide more extensive and complete biological asset disclosures than companies with low levels of internationalization. This is because internationalized oil palm plantation companies often focus more on consolidated financial statements that reflect their global performance. In this context, specific details about biological assets may be considered less important than the overall financial picture. As a result, information on biological assets is not widely disclosed. The results of this study are consistent with the findings of [Hayati & Serly \(2020\)](#) and [Sa'diyah et al. \(2019\)](#), which found that the level of internationalization has a negative effect on the disclosure of biological assets.

## CONCLUSION

The results of the study of the influence of the intensity of biological assets, company growth, public ownership, type of KAP, and level of internationalization on the disclosure of biological assets show that two variables affect the disclosure of biological assets, namely the intensity of biological assets and the level of internationalization. The other three variables, namely company growth, public ownership, and type of KAP have no effect on the disclosure of biological assets. Company growth has no effect on the disclosure of biological assets because investors or stakeholders consider the company's performance in generating profits more than the company's growth rate in the decision-making process of investing in oil palm plantation companies. The high level of company growth does not guarantee the company's ability to generate profits. Public ownership of coconut companies is still very low, so public ownership does not affect the disclosure of biological assets. Auditors place less emphasis on the disclosure of biological assets in their reports, so both auditors affiliated with the Big Four KAP and non-affiliated auditors have similarities in their audit reports regarding the disclosure of biological assets. Based on this description, the type of KAP has no effect on the disclosure of biological assets.

Suggestions for future research include expanding the research sample to include more companies and industries to increase the generalizability of the results. In addition, cross-country comparisons can be made to understand how the factors that influence the disclosure of biological assets vary across countries.

The first implication of this research is to raise awareness of the importance of disclosing biological assets in financial statements in order to improve the quality of the company's financial statements. Increased transparency in the disclosure of biological assets can help the public understand the environmental impact of a company's activities. Second, to strengthen the monitoring and enforcement of companies that do not comply with the standards for disclosure of biological assets. This oversight must include education and training of accountants and financial professionals on the importance of disclosing biological assets.

## LIMITATION

The number of samples in this study is very small, with only 14 palm oil companies listed on the IDX. Further research can be done by increasing the number of research samples by observing all companies that disclose biological assets in their financial statements, not only limited to palm oil companies. Moreover, further research can test other variables that affect the disclosure of biological assets such as firm size, profitability, leverage, and liquidity.



## ACKNOWLEDGMENT

The authors would like to thank the Faculty of Economics and Business UPN "Veteran" Yogyakarta.

## DECLARATION OF CONFLICTING INTERESTS

The authors have no problems with any party in completing this research. The data used in this research has no conflict of interest with any party.

## REFERENCES

- Alfarisyi, N., Diantimala, Y., Yahya, R., & Saleh, M. (2022). Biological assets and firm value: Do fair value measurement and disclosure matter?. *Jurnal Dinamika Akuntansi dan Bisnis*, 9(2), 205-222. <https://doi.org/10.24815/jdab.v9i2.24694>
- Alfiani, L. K., & Rahmawati, E. (2019). Pengaruh biological asset intensity, ukuran perusahaan, pertumbuhan perusahaan, konsentrasi kepemilikan manajerial, dan jenis KAP terhadap pengungkapan aset biologis (pada perusahaan agrikultur yang terdaftar di Bursa Efek Indonesia periode 2014-2017) [The influence of biological asset intensity, company size, company growth, managerial ownership concentration, and type of KAP on biological asset disclosure (in agricultural companies listed on the Indonesia Stock Exchange for the period 2014-2017)]. *Reviu Akuntansi dan Bisnis Indonesia*, 3(2), 163-178. <https://doi.org/10.18196/rab.030243>
- Aminah, A., Suhardjanto, D., Rahmawati, R., Winarna, J., & Oktaviana, D. (2022). Biological asset disclosure in Indonesia. *Ilomata International Journal of Tax and Accounting*, 3(4), 397-407. <https://doi.org/10.52728/ijtc.v3i4.561>
- Azzahra, V., Luthan, E., & Fontanella, A. (2020). Determinan pengungkapan aset biologis (studi empiris pada perusahaan agriculture yang terdaftar di Bursa Efek Indonesia [Determinants of biological asset disclosure (an empirical study of agricultural companies listed on the Indonesia Stock Exchange)]. *Ekonomis: Journal of Economics and Business*, 4(1), 230-240. <http://dx.doi.org/10.33087/ekonomis.v4i1.114>
- Carolina, A., & Kusumawati, F. (2020). Firm characteristics and biological asset disclosure on agricultural firms. *Jurnal Akuntansi Dan Keuangan*, 22(2), 59-71. <https://doi.org/10.9744/jak.22.2.59-71>
- Central Agency of Statistics Indonesia (BPS Indonesia). (2023, November 30). *Statistik Kelapa Sawit Indonesia: Indonesia Oil Palm Statistic 2022*. Badan Pusat Statistik Indonesia. <https://www.bps.go.id/id/publication/2023/11/30/160f211bfc4f91e1b77974e1/statistik-kelapa-sawit-indonesia-2022.html>
- Deegan, C. (2004). *Financial Accounting Theory*. McGraw-Hill Education.
- Fitriasuri, F., & Putri, M. A. (2022). Determinan pengungkapan aset biologis pada perusahaan agrikultur yang terdaftar di BEI [Determinants of biological asset disclosure in agricultural companies listed on the IDX]. *Owner: Riset dan Jurnal Akuntansi*, 6(4), 3510-3523. <https://doi.org/10.33395/owner.v6i4.1188>
- Freeman, R. E., & McVea, J. (2005). A stakeholder approach to strategic management. In M. A. Hitt, R. E. Freeman, & J. S. Harrison (Eds.), *The Blackwell Handbook of Strategic Management*, 183-201. <https://doi.org/10.1111/b.9780631218616.2006.00007.x>
- Hayati, K., & Serly, V. (2020). Pengaruh biological asset intensity, growth, leverage, dan tingkat internasional terhadap pengungkapan aset biologis [The influence of biological asset intensity, growth, leverage, and international level on biological asset disclosure]. *Jurnal Eksplorasi Akuntansi*, 2(2), 2638-2658.

- Ika, S. R., Farida, F. N., Asih, S. N., Okfitasari, A., & Widagdo, A. K. (2024, February). The impact of biological asset disclosures and economic sustainability on firm value: Evidence from agricultural companies in Indonesia. In *IOP Conference Series: Earth and Environmental Science* (Vol. 1297, No. 1, p. 012069). IOP Publishing. <https://doi.org/10.1088/1755-1315/1297/1/012069>
- Indonesian Institute of Accountants (IAI). (2020, November 30). PSAK 69. Ikatan Akuntan Indonesia. [https://web.iaiglobal.or.id/assets/files/file\\_sak/exposure-draft/DE%20PENYESUAIAN%20TAHUNAN%20PSAK%2069.pdf](https://web.iaiglobal.or.id/assets/files/file_sak/exposure-draft/DE%20PENYESUAIAN%20TAHUNAN%20PSAK%2069.pdf)
- Jensen, M. C., & Meckling, W. H. (2019). Theory of the firm: Managerial behavior, agency costs and ownership structure. In *Corporate Governance* (pp. 77-132). Gower.
- Kamaludin, K., Harisudin, M., Sutrisno, J., & Irianto, H. (2023). Sustainability analysis of independent palm oil plantations in Sintang Regency, West Kalimantan. *Journal of International Conference Proceedings*, 6(4), 135-149. <https://doi.org/10.32535/jicp.v6i4.2611>
- Kusnandar, V. B. (2023, October 1). *Produsen CPO Terbesar Dunia, RI-Malaysia Sepakat Lawan Diskriminasi Sawit [World's Largest CPO Producers, Indonesia-Malaysia Agree to Fight Palm Oil Discrimination]*. Databoks. <https://databoks.katadata.co.id/agroindustri/statistik/81c2bbef526572b/produsen-cpo-terbesar-dunia-ri-malaysia-sepakat-lawan-diskriminasi-sawit>
- Lainawa, J., Lumy, T. F., & Endoh, E. K. (2024). Design integrated crop-livestock and fish farming model with LEISA System in North Minahasa Regency. *International Journal of Applied Business and International Management*, 9(1), 46-61. <https://doi.org/10.32535/ijabim.v9i1.2942>
- Lestari, N., Maharani, S. N., & Fauzan, M. S. (2020). Analysis of differences in measurement of fair value and historical value of biological assets on income smoothing (Study on agricultural companies in Southeast Asia and Australia). *International Journal of Accounting & Finance in Asia Pasific*, 3(3), 76-88. <https://doi.org/10.32535/ijafap.v3i3.955>
- Mutia, A. (2022, September 12). *Ini Pangsa Konsumsi Minyak Nabati Dunia Paling Besar hingga 2022 [This is the Largest Share of World Vegetable Oil Consumption until 2022]*. Databoks. <https://databoks.katadata.co.id/energi/statistik/acb30593b517162/ini-pangsa-konsumsi-minyak-nabati-dunia-paling-besar-hingga-2022>
- Owen, M., & Radianto, W. E. D. (2022). Pengaruh intensitas aset biologis, ukuran komite audit dan keahlian keuangan komite audit terhadap pengungkapan aset biologis pada perusahaan agrikultur yang terdaftar di BEI [The effect of biological asset intensity, audit committee size and audit committee financial expertise on biological asset disclosure in agricultural companies listed on the IDX]. *Eqien-Jurnal Ekonomi dan Bisnis*, 11(1), 551-557. <https://doi.org/10.34308/eqien.v11i1.757>
- Putri, A. N., Pamungkas, N., & Satmoko, A. (2023). The effect of biological asset intensity, ownership concentration, public ownership, and audit committee meeting on biological asset disclosure. *Jurnal Akuntansi Bisnis*, 21(1), 14-25. <https://doi.org/10.24167/jab.v21i1.8602>
- Rachmawati, Y., & Oktariyani, A. (2019). Implementasi perlakuan akuntansi aset biologis berbasis PSAK 69 yang berlaku efektif 1 Januari 2018 pada perusahaan perkebunan (studi kasus PT. PP London Sumatera Indonesia, Tbk) [Implementation of accounting treatment for biological assets based on PSAK 69 which is effective January 1, 2018 in plantation companies (case study of PT. PP London Sumatera Indonesia, Tbk)]. *Akuntansi dan Manajemen*, 14(2), 130-145.

- Sa'diyah, L. D. J., Dimyati, M., & Murniati, W. (2019, July). Pengaruh biological asset intensity, ukuran perusahaan, dan tingkat internasionalisasi terhadap pengungkapan aset biologis (pada perusahaan agrikultur yang terdaftar di Bursa Efek Indonesia periode 2013-2017) [The influence of biological asset intensity, company size, and level of internationalization on biological asset disclosure (in agricultural companies listed on the Indonesia Stock Exchange for the period 2013-2017)]. In *Progress Conference* (Vol. 2, No. 1, pp. 291-304).
- Santoso, J., & Handayani, S. (2021). Pengaruh ukuran perusahaan, growth, leverage, profitabilitas dan tingkat internasionalisasi terhadap pengungkapan aset biologis [The influence of company size, growth, leverage, profitability and level of internationalization on biological asset disclosure]. *Jurnal Sosial dan Sains*, 1(3), 140-153. <https://doi.org/10.59188/jurnalsosains.v1i3.59>
- Scarvino, C., Rustadi, R., Paramitha, M., & Santi, C. (2021). Implikasi biological asset intensity, ukuran perusahaan, kepemilikan manajerial dan KAP terhadap pengungkapan aset biologis [Implications of biological asset intensity, company size, managerial ownership and KAP on biological asset disclosure]. *J-MACC: Journal of Management and Accounting*, 4(2), 1-18. <https://doi.org/10.52166/j-macc.v4i2.2635>
- Sriyuniarti, F., & Andriani, W. (2022). Faktor-faktor yang mempengaruhi pengungkapan aset biologis berdasarkan PSAK 69 (studi empiris pada perusahaan perkebunan yang terdaftar di Bursa Efek Indonesia 2015-2020) [Factors influencing the disclosure of biological assets based on PSAK 69 (empirical study on plantation companies listed on the Indonesia Stock Exchange 2015-2020)]. *Jurnal Akuntansi, Bisnis dan Ekonomi Indonesia*, 1(1), 109-115. <https://doi.org/10.30630/jabei.v1i1.20>
- Suwardjo, I., Suparman, M., Rosana, J., Pangestu, K. Y., & Rahman, P. (2024). Pengungkapan aset biologis, ekonomi global dan hilirisasi dapatkah dewan mendorong pertumbuhan berkelanjutan di industri agrikultur [Biological asset disclosure, global economy and downstreaming can boards drive sustainable growth in the agricultural industry]. *Owner: Riset dan Jurnal Akuntansi*, 8(4), 4767-4779. <https://doi.org/10.33395/owner.v8i4.2269>
- Wahid, M. I. Y. H., Handayati, P., & Firmansyah, R. (2020). Reporting biological assets on SAK-ETAP perspective (A case study on dairy cattle farming in dairy farming in Oro-Oro Ombo Village, Batu City). *International Journal of Accounting & Finance in Asia Pasific*, 3(3), 58-68. <https://doi.org/10.32535/ijafap.v3i3.953>
- Zulaecha, H. E., Rachmania, D., & Amami, A. S. (2021). Pengungkapan aset biologis pada perusahaan algikultur di Indonesia serta faktor yang mempengaruhinya [Disclosure of biological assets in algiculture companies in Indonesia and the factors influencing it]. *COMPETITIVE Jurnal Akuntansi Dan Keuangan*, 5(1), 122-129. <http://dx.doi.org/10.31000/competitive.v5i1.4062>

## ABOUT THE AUTHOR(S)

### 1<sup>st</sup> Author

Tio Sandela Nugraha is an alumnus of the Accounting Study Program, Faculty of Economics and Business, UPN Veteran Yogyakarta.

### 2<sup>nd</sup> Author

Kunti Sunaryo is an undergraduate lecturer of the Accounting Study Program at the Faculty of Economics and Business, UPN Veteran Yogyakarta, and graduated from the master's program at UGM Yogyakarta. ORCID ID: <https://orcid.org/0000-0003-4527-79542>, email address [kunti.sunaryo@upnyk.ac.id](mailto:kunti.sunaryo@upnyk.ac.id)