EGE AKADEMİK BAKIŞ / *EGE ACADEMIC REVIEW*

Cilt 26 • Sayı 2 • Nisan 2026
SS. 337/350
Doi: 10.21121/eab.20260222
Başvuru Tarihi: 10.02.2025 • Kabul Tarihi: 02.12.2025

Article Type: *Research Article*

The Accounting of Bearer Plants and its Application in a Walnut Orchard Enterprise*

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ABSTRACT

This study explores agricultural activities and the treatment of bearer plants within the framework of International Accounting Standards (IAS) 41 and IAS 16, using walnut production as a case study. The research is organized into four main sections. The first section discusses agriculture, agricultural production and post-production processes, as well as the concept of agricultural enterprises, with a particular focus on walnuts and walnut cultivation. The second section examines agricultural accounting, emphasizing its significance and key conceptual definitions. The third section outlines IAS 41 Agriculture and the amendments regarding bearer plants. Finally, the fourth section presents a practical application of IAS 41 and IAS 16 to walnut orchards, demonstrating accounting practices for bearer plants in a local walnut enterprise.

Keywords: Agricultural Production, Agriculture Standard, Walnut Production, Agricultural Accounting.

JEL Classification Codes: M40, M41,Q14

Referencing Style: APA 7

INTRODUCTION

The concept of agricultural accounting is primarily based on firms involved in agricultural activities and production. Within the scope of "Agricultural Activity Accounting", key elements such as cost savings, competitive advantage, capital, and access to capital in agricultural production reporting are identified. These elements are outlined within the framework of international accounting standards, ensuring effectiveness and alignment with the global framework.

Agricultural accounting information disclosures are provided through the International Accounting Standards Committee (IASC) and the Public Oversight Authority in Turkey. The higher the compliance with the standards, the more effective the sustainability of firms becomes.

At this point, the study aims to examine the impact of agricultural strategy applied by businesses engaged in agricultural activities on the concept of costing and the significance of agricultural activity accounting. It will also analyse the impact of effective accounting performance on sustainability and development. Furthermore, the study aims to determine the impact of the compliance of bearer plant cultivation, which is the subject of the study, with international accounting standards, its development, and its effect on the relationship between agricultural activities and accounting.

The study adopts a case study method, supported by document analysis and examination. The application includes the compliance of accounting practices in walnut orchard enterprises engaged in bearer plant cultivation with international accounting standards, along with the explanations of the "IAS 41 Agriculture" standard.

THE CONCEPT OF AGRICULTURE

The emergence of agriculture marked a turning point in human history. It laid the foundations of civilization, as communities in Mesopotamia, around 8,500 years ago, began practicing plant cultivation and animal husbandry, thereby giving rise to the concept of farming.

Agriculture has led to social and economic changes, significantly enhancing the quality of human life. The agricultural developments in Mesopotamia were among the pioneers of this transformation. Mankind's ability to produce food has triggered the rise of civilization, leading to numerous changes in technological, social,

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political, and cultural domains. The effects of these changes are becoming increasingly evident in today's world. According to Çiftçi (2016), these fortunate groups, possessing means of occupation against hunter-gatherers, occupied fertile lands across the planet, spreading their genes to Europe, North America, North Africa, India, and Central Asia (Çiftçi, 2016).

The importance of agriculture has been more comprehensive in some countries than in others; however, today, agriculture holds a dominant position in every country as a cornerstone for a sustainable future. The term agriculture is derived from two Latin words: ager or agri, meaning soil, and cultura, meaning cultivation. Modern definitions of agriculture describe it as the practice of utilizing natural resources to sustain human life and generate economic output. As an agriculture utilizes all previously developed technologies based on scientific principles, such as plant breeding (Yurtseven, 2023:106).

Agricultural products not only meet our nutritional needs but also form the dominant commodities in global trade and the economy. They include essential goods such as grains, livestock, dairy products, fibres, and raw materials for fuel.

Agricultural Products

The agricultural factor, which begins as an input for raw material production and transforms into a value-added output through agricultural activities, contributes to the global supply chain and economic development within the system and thus highlights its importance for businesses and countries.

It refers to the production of plant-based, animal-based, aquatic products, microorganisms, and energy with the use of land, water, biological resources, and agriculture-based inputs (Ministry of Agriculture and Forestry, 2023).

The concept of agricultural production is initially perceived as plant-based production. The activities carried out in agriculture are examined under two main categories including the plant-based production and other agricultural products.

Agricultural Activity

According to Bean, J., and Marshall, C. (2023), agricultural activities are defined as income-generating practices or uses characterized by the cultivation ofcrops including all types of flowers, fruits, vegetables, vegetation, pastures, and timber. Farming or livestock raising, or animal husbandry, as well as aquaculture, typically refer to the uses associated with hunting and fish breeding.

Agricultural activities encompass various processes involved in cultivating crops and raising animals as food for human population. Crops are also utilized in various industrial processes. For example, palm oil is used in a wide range of products, from cooking oil to cosmetics. Additionally, sugarcane waste is often used for biofuel production, while cotton plays a key role in the textile industry. Livestock is raised not only for meat, eggs, and milk but also for leather and wool.

After the definitions of agricultural activities, when a list is created to understand the mechanisms of agriculture and the needs of the land in terms of agricultural practices, the purpose of agricultural practices is to apply a set of principles in which all resources and data integrated with agricultural activity are used to obtain better agricultural products.Agricultural practices and activities affect many important functions and processes of the ecosystem. As a result of governmental regulations, these ecosystems are managed and monitored under the name of "state ecosystems" (Sustainability practices).

With the general explanations provided above, we can follow agricultural activities as they are referred to in the literature.

Plant Production

Plant production encompasses the process of growing and harvesting plants using techniques in agricultural and horticultural environments. It is a branch of agriculture that focuses on the production of crops for food and fibre purposes. Plant production, which plays a significant role in agricultural value, is divided into two main categories: field crops and horticultural crops (Gökgöz, A. 2013).

Globally, the primary source of production from plant species is cereals. When looking at examples of non-cereal plants, sugarcane was the highest-producing plant in 2010, with a production of 1.7 billion tons. After sugarcane, the production ranking follows with maize, rice, wheat, potatoes, and soybeans. Although soybeans rank last in terms of production quantity, they hold the fourth position in total production efficiency, following rice and wheat(FAO,2024).

Animal Production

Animal production "is an indispensable economic activity for the country and agricultural business economy due to its ability to provide continuous cash flow throughout the year and reduce the risks of

Table 1. Types of Agricultural Activities

Types of Agricultural Activities		
Plant Production	Animal Production Aquaculture Production	Forest Products Production

Source: (Gökgöz, A.2013).

uncertainty in agriculture." (Sönmez, F. 2006) The primary and by-products of animal production, when supplied to other sectors, serve as interactive inputs. In short, the more animal production there is, the more related sectors can produce, and the economy grows.

The demand for animal products creates frequent interactions within short periods. Due to this characteristic, the trade of animal products experiences continuous fluctuations in supply and demand. In Turkey, since there has been no structural development in livestock production, half of the country's livestock consists of low-yield breeds. As a result, the annual milk production per cow is below 2 tons. The actual situation also applies to meat productivity (Sönmez, F. 2006)

Forest Products Production

The forest products sector is integrated with many industries that contribute to the economies of countries. The sector provides continuity to industries such as construction, iron and steel, furniture, and transportation. The raw material for the forest products industry is wood. The forest products sector is valuable for countries in terms of creating sub-sectors and activity groups.

According to Ersen (2016), the forest products sector can be classified into three main groups:

- Primary Manufacturing Industry: This includes the sawmill industry, panel industry (such as veneer, plywood, particleboard, fibreboard), and the pulp and paper industry.
- Secondary Manufacturing Industry: This encompasses finished and semi-finished products derived from the primary manufacturing industry.
- Other Forest Products Industry: This category covers a wide range of products, including musical instruments, shoe moulds, wooden toys, parquet, joinery, furniture, prefabricated house production, turning products, pencil industry, and many others that use wood products as raw materials.

In Turkey, factors that negatively affect the production of forest products and materials include the tax burden and the higher timber prices compared to European and global markets. This situation also makes it difficult to respond effectively to competitive conditions in the timber and flooring sectors. For these reasons, there is a need for small enterprises to transform into corporate businesses.

Aquaculture Production

In Turkey, the production of aquatic products is primarily led by fishing activities. These products are categorized into three main groups: marine products, cultured fish raised in fish farms, and freshwater products (Tuğay,2015:44). In Turkey, most of the aquatic product production is derived from fishing activities. This includes fish and fish species obtained from sources such as large and open seas, which are not intended for agricultural activities. In contrast, aquaculture, which refers to the activities carried out in production farms, is considered as an agricultural activity.

Marine products make up approximately 37% of the production value entering international trade. This share is the highest among food products; for example, meat accounts for 9.8%, and dairy products for 6.7%. Considering the ratio between marine products trade and domestic availability, it is estimated that 77% of the world's seafood products are exposed to commercial competition (Natale, F.; Borello, A.; and Motova, A. 2015: 98).Since primary production has the maximum relationship with commercial competition, trade is crucial for the aquaculture and fishing sectors. In developed countries, it plays a key role in imports, while in developing countries, it serves as a source of income.

When we examine aquaculture products in Turkey, production and consumption are insufficient. While the global per capita fish consumption is around 18 kilograms, in Turkey, this consumption is approximately 7.2 kilograms (General Directorate of Fisheries and Aquaculture, 2024:5). In Turkey, where the population is rapidly increasing, it is inevitable for local producers to take their place in the growing market, and this should not be overlooked.

The value of the agricultural economy, including plant, animal, forest, and aquatic products, forms the cornerstone of a nation's resource structure. The agricultural economy is a process of activities that systematically balance income and needs, develop alongside other sectors, and requires continuous support from both developed and developing countries. Ultimately, it serves as a value-added chain that contributes to the country through product inputs and outputs, marketing, and foreign exchange earnings.

Many observers acknowledge the significant role played by the post-harvest food value chain that transforms agricultural commodities into foods consumed by people in multiple ways. This includes processing, storage, transportation, wholesale, retail, food services, and other functions, (Yi et al., 2021:3).

Conceptual Information On Walnuts And Walnut production

Walnut (Juglans regia L.) is a fruit that can be grown by producers in various climatic conditions, including cold and dry climates. A walnut is a round, single-seeded, hard-shelled fruit of the walnut tree.

Walnut cultivation is largely focused on dry and fresh consumption. Traditionally, walnuts are preferred in their shells, but recently, with the development of the ready-to-eat food sector, shelled walnut products are becoming increasingly popular. In Turkey, walnut kernels are primarily consumed within households. Additionally, they are commonly used in small pieces in the bakery and confectionery industries. The walnut tree, with all its components (leaves, fruit, and wood) has significant economic value and impacts various sectors.

The uses of the walnut tree are diverse. Before the shells harden, the green fruits are utilized in the food and pharmaceutical industries. Its leaves, husks, and roots are used in the tannin and dye industries. Walnut oil is used in technology and oil painting. The walnut tree serves as a primary raw material in the furniture industry (Haskınacı, 2003:124).

Walnut Production in Turkey

In the literature, the native homeland of the walnut is known to be the Ghilan region of Iran and China. The archaeological studies indicate that the walnut is a fruit of the region extending from the Carpathian Mountains through Turkey, Iraq, Iran, Southern Russia, India, Manchuria, and Korea.

The walnut is believed to have been introduced to Greece via trade routes from Iran around 750–500 BCE. Thenpassing through Turkey, walnuts reached Greece and were subsequently traded to Rome. In Europe, they were referred to as "Jovis Glans," meaning "Jupiter's nut," and this term evolved into the scientific name "Juglans", which is still used for walnuts today.

The walnut, which provides all the minerals and proteins needed by the human body, presents itself with a 3,000-year-old heritage of walnut culture. Turkey is the country with the highest walnut consumption in the world, with an annual per capita consumption of 3.3 kg. In Turkey, the annual average walnut consumption is 280,000 tons (Walnut Producers Association, 2023:10).

Walnut cultivation in Turkey falls under the category of hard-shelled fruits. In terms of production area, Turkey ranks third globally, while it holds second place in the production process. Over the past 20 years, there have been numerous significant advancements in walnut production in Turkey. Recent support measures have expanded the walnut cultivation area in Turkey from approximately 200,000 decares to around 800,000 decares. However, this increase in cultivated area has not led to expected rise in production. As a result, Turkey is forced to import walnuts to meet domestic consumption needs (Koyuncu and Koyuncu, 2019:16).

IAS 41 Agriculture Standard

In this section, explanations of concepts related to the Agricultural Standard (IAS 41) are provided. The purpose of the standard is to regulate accounting methods and disclosures for agricultural activities. This standard applies to living assets other than bearer plants, and agricultural products at the time of harvestin relation to agricultural activities.

IAS 41 outlines the guidelines for recognizing and valuing biological resources and agricultural products. This Standard does not apply to (IAS 41, 2024:2):

a. land related to agricultural activity (see IAS 16 Property, Plant and Equipment and IAS 40 Investment Property).

b. bearer plants related to agricultural activity (see IAS 16). However, this Standard applies to the produce on those bearer plants.

c. government grants related to bearer plants (see IAS 20 Accounting for Government Grants and Disclosure of Government Assistance).

d. intangible assets related to agricultural activity (see IAS 38 Intangible Assets).

e. right-of-use assets arising from a lease of land related to agricultural activity (see IFRS 16 Leases).

Agricultural activities encompass a wide range of practices, including livestock farming, forestry, fruit cultivation, plantations, floriculture, and fishing. Despite this diversity, all agricultural activities share common characteristics that should be interpreted as application criteria, as outlined in IAS 41.6 (a)-(c):

The points presented so far indicate that classifying living assets based on their lifespan is not significant. Instead, a distinction is made between consumable and bearer biological assets. Instead, a distinction is made between consumable and bearer biological commodities intended for harvest as agricultural produce or for sale as biological assets. Examples of these assets are live stock raised for meat production and sale, farmed fish, or crops like corn and wheat. Bearer biological assets, on the other hand, produce agricultural products or other biological assets regularly throughout their lifespan.

Accounting For Biological Assets And Agricultural Produce

(a) General Measurement Conditions

In IAS 41.12, biological assets should be measured at fair value less estimated point-of-sale costs upon initial recognition and at each subsequent reporting date. Therefore, the differentiation between the first and the following measurement is unnecessary. In cases where fair value cannot be reliably determined, the initial measurement is instead based on the current costs of purchase or production. In contrast to other standards like IAS 16 or IAS 40, using current purchase or production costs for accounting is not an alternative measurement method but a "reliability exception". According to IAS 41.30, it is assumed that the fair value of a biological commodity can be reliably measured. This assumption will be only refuted at the time the biological commodity is first recognized. It can be only applicable in cases where market prices or values are unavailable, and alternative fair value measurements of the biological asset are clearly unreliable.

If biological commodities are measured at acquisition or production cost, special information should be provided in the notes in addition to cumulative depreciation and value reductions. In addition, a reporting enterprise should check throughout the transition period whether the market value can be consistently measured at the time and whether it is possible to move from the cost-based valuation to the market value assessment.

Under IAS 41.56, it must explain the rationale for the changes, and disclose the effects.

The International Accounting Standards Board assumes that as the biological transformation period advances, fair value can be determined with greater reliability and precision. As stated by IAS 41.13, agricultural products harvested from the biological commodities of an entity should be measured at its fair value less costs to sell at the point of harvest. These values simulate the acquisition or production costs as defined in IAS 2. The International Accounting Standards Board considers, in IAS 41.32, that the fair value of agricultural produce can be reliably determined at the point of harvest. Products that undergo processing after harvest, such as making wine from grapes, are no longer valued under IAS 41 but are instead measured according to IAS 2, which applies to the general accounting counterpart of supplies. At this stage, the production costs of agricultural produce are determined by deducting the estimated point-of-sale costs from the fair value at the point of harvest.

(b) Special Measurement Rules for Calculating Fair Value

In IAS 41.8, fair value is defined as the amount at which an asset could be traded, or a liability settled, between informed and willing parties in a transaction conducted at arm's length.

IAS 41.9 states that market value should be based on the current condition and situation of the asset, and therefore, it must reflect the information available at the measurement date. As a result, the fair value of a cow is determined by deducting transportation costs and other expenses related to bringing the cow to market from the market price. In contrast to the other standards, IAS 41 provides specific regulations about determining market value. The fair value of a biological resource or agricultural produce is determined by subtracting estimated costs to sell at the point of harvest.

In IAS 41.14, commissions for brokers and dealers, taxes imposed by regulatory bodies and commodity exchanges, as well as transfer and customs duties, are mentioned as examples. Therefore, transport costs and other marketing-related expenses are not included in the estimated costs to sell and should be directly considered in the process of establishing the market value. Exceptionally, if the estimated point-of-sale costs exceed

the fair value and don't have a binding sales contract, the asset should be recognized at zero value.

An active market for many goods is often theoretical; however, such markets exist for certain biological commodities and agricultural produce. Many agricultural commodities are-exchangedin institutionalized markets or commodity trades due to the homogeneous characteristics of goods. For individual agricultural products, such as various categories of cereals, the emphasis is generally on commodities - goods for which product differentiation is typically not possible. In the absence of an active market, particularly for biological assets with extended transformation periods, fair value should be determined comparing the market prices. Under IAS 41, following factors can be considered in determining the fair value, without any prescribed hierarchy:

- Provided there has been no significant change in economic conditions since that time, the latest market values of comparable assets;
- The market prices of similar assets are adjusted for differences through corrective measures.

The "residual method" is commonly used to determine value. However, it may cause problems when the land's value, excluding biological assets, exceeds the combined value, as is often the case with arable land about to be cultivated. If the residual method produces a negative difference that does not reflect economic reality, the value of the biological assets should instead be measured using an alternative method. In such cases, applying the "residual method" merely for simplification is not permitted.

Since September 2003, the IFRIC (International Financial Reporting Interpretations Committee) has primarily been engaged with issues related to determining fair value through the calculation of discounted value. A key issue arises from IAS 41.20, which requires cash flows to be discounted at a "rate determined by the market before discounting," while IAS 41.21 does not permit the inclusion of value increases resulting from additional biological transformations when determining the current value.

In the future, this inconsistency will be resolved by considering the anticipated increase when defining the value. On the contrary, it has been stated that the point of harvest value is not equivalent to the value at the measurement pointto. Additionally, in May 2004, IFRS 13 indicated that the costs associated with replanting crops are also not allowed to be considered when determining fair value.

(c) Recording the Result

In IAS 41.26, the initial recognition of a biological asset and changes in fair value less estimated point-of-sale costs are immediately included in the profit or loss of the reporting period, considering the incurred costs. The costs experienced throughout the entire year to enhance biological added value represents a significant amount especially when dealing with biological commodities that have a long transition period.

Recording the change in fair value in the profit or loss for the period is justified by the immediate visibility of the effects of biological transformation and the principle of associating the result with the period.

Disclosures Related To Biological Assets And Agricultural Production In Financial Statements

According to IAS 44.46(a), if not presented appropriately elsewhere in the financial statements, it requires the disclosure of the nature of activities involving each group of biological assets. Additionally, IAS 41.46(b) requires the presentation of non-financial measures or estimates for each group of biological commodities at the end of the period and the quantities of agricultural produce during the period, if not disclosed elsewhere in the financial statements. Separate information should be provided for biological commodities measured at cost of acquisition or production costs, rather than market value. According to IAS 41.54, the following specific details must be provided regarding the definition of biological commodities:

*description of the assets
* an explanation of why fair value cannot be reliably measured
*if possible, a range within which fair value is highly likely to lie
* useful lives or depreciation rates
*depreciation method
*gross carrying amount and the accumulated depreciation, beginning and ending.

Source: https://www.iasplus.com/en/standards/ias/ias41

EXAMPLE APPLICATION

The case study examined in this section uses *fictional* company names, but it has been prepared using real and up-to-date data. Kaan Agricultural Corporation is a private sector organization serving Turkish and European farmers, with Turkish capital. It ranks among the top three companies in walnut and almond orchard cultivation. Additionally, the company participates in scientific meetings on "Good Agricultural Practices (GAP)" and "Sustainable Supply Chains" in the Central Valley region of California, where it holds honorary membership.

Kaan Agricultural Corporation is a company that provides services to restaurant chains in Turkey and the United Arab Emirates within the food and dessert industry. Furthermore, in 2000, the company formed an agreement with the "World Gourmet" dessert company in the United States to produce desserts for the Turkish market.

Land Acquisition for Agricultural Activities

Kaan Agricultural Corporation, a Turkish walnut producer and trader, has stated its intention to use its products in the food industry to create awareness of walnut trends and introduce unique and alternative flavors over the next 10 years. In line with this goal, the company has identified an 80-decare parcel of land in Kavaklıdere, located at an altitude of 880 meters in the northern part of Muğla province. The area was selected due to its cool, humid climate, high pH value, rich minerals, and the ability to impart unique aromatic flavors. Additionally, the walnuts grown in this region have a larger appearance, speckled shells, and distinctive characteristics compared to other varieties. On January 17, 2024, Kaan Agricultural Corporationpurchased the 80-decare parcel of land in Kavaklıdere for 27,000,000₺ (excluding title deed fees and revolving fund calculations).

02/01/2024

250.Land and Plots Account	**27.000.000**	
102 Bank Accounts		**27.000.000**

Purchase of land (plot) for the bearer plant (Walnut Orchard)

Procurement of Consulting Services for Agricultural Production Activities

The company signed a contract for land survey, including agricultural research, soil analysis, water testing, drilling, and other related activities, with two agricultural engineers and an agricultural consulting firm registered within the relevant Directorate of Forestry of the Ministry of Agriculture and Forestry of the Republic of Turkey. The total contract amount, including VAT, is $1,000. Payments were made through a bank transfer. (Exchange rate: 1 USD = 29.7714 TRY).

05/01/2024

258.Construction in Progress	**25.230**	
01.Bearing Plant Investments(847,46 USD)		
Muğla Kavaklıdere Walnut Orchard		
191. Deductible VAT %18	**4.541,40**	
(152,54 USD)		
102 Bank accounts		**29,771,40**
(1.000 USDForeign Currency Account (USD)		

Procurement of Consulting Services for Bearer Plants (Walnut Orchard)

Procurement of Irrigation Services for Agricultural Production

The use of modern irrigation techniques on the land, (an ideal water supply of approximately 2 tons per hour could not be achieved), and the water supply through drilling, along with drip irrigation and scheduling methods have been agreed upon with a water tank installation company.

For the operations to be carried out, a contract worth 300,000 + 18% VAT was made, and the desired level of water and timer-based irrigation techniques have been implemented.

07/01/2024

258.Construction in Progress	**300.000**	
02.Bearer Plant Investments /MuğlaKavaklıdereWalnut Orchard		
The Installation of Irrigation Systems		
191. Deductible VAT %18	**54.000**	
103 Checks Given and Payment Orders		**354.000**
Pesticide Application for the Saplings in Bearer Plant (Walnut Orchard)		

Procurement of Energy Subscription Service for Agricultural Production

The company has obtained electricity and water subscriptions for the irrigation facility from Aydem Electricity Distribution Company and the Muğla Water and Sewerage Administration, respectively. A cash payment of 283.80₺ was made for the electricity subscription, and 150.00₺for the water subscription.

07/01/2024

258.Construction in Progress	**283,80**	
03.Investments for Bearer Plant		
Electricity Subscription for MuğlaKavaklıdereWalnut Orchard		
258.Construction in Progress	**150**	
03.Investments for Bearer Plant		
Water Subscription for MuğlaKavaklıdereWalnut Orchard		
100 Cash Account		**433,80**
Procurement ofElectricityand Water Subscriptions for Bearer Plant (Walnut Orchard)		

Procurement of Sapling Services Related to Agricultural Production Activities

After conducting studies on the land, the company proceeded with the procurement of the saplings for the establishment of a Chandler Walnut Orchard utilizing a 7x5 meter spacing(7 meters between rows and 5 meters between trees), which allows for approximately 28 saplings per decare (1,000 square meters). A total of 2.240 blue-certified saplings were purchased.(Each Chandler walnut sapling was priced at 75₺+ 18% VAT.)

09/01/2024

258.Construction in Progress	**168.000**	
04.Investments for Bearer Plant		
Procurement of Chandler Walnut Sapling for Muğla Kavaklıdere Walnut Orchard		
191. Deductible VAT %18	**30.240**	
102 Bank Accounts		**198.240**
Procurement of Walnut Saplings for the Bearer Plant (Walnut Orchard)		

Fencing of Walnut Orchard for Agricultural Production Activities

The company plans to install a galvanized wire fence for the walnut orchard, with specifications of 2.2mm thickness,

7x7 mesh size, and a height of 1.5 meters (1.5m x 20m). The labour for installation will be carried out by the company's own staff. A firm will deliver the materials, including galvanized pipes, with a total cost of 2,000₺, including VAT. The deliverv will be for one roll of 20 meters.

11/01/2024

258.Construction in Progress		**881.135,58**	
05.Investments for Bearer Plant			
Muğla Kavaklıdere Walnut Orchard			
Chandler Walnut Orchard Fencing Construction			
191.Deductible VAT %18		**158.604,40**	
	103 Checks Given and Payment Orders		**1.039.739,98**
Fencing Construction			

Labour Required for Planting Walnut Orchard Saplings Planting for Agricultural Production Activities

The company has paid careful attention to the critical process of sapling planting. A total of 24 agricultural workers were employed for this task, working for 5 days at a daily wage of 700₺. Upon completion of the work, payments were made via bank transfer. (As per legal requirements under the Income Tax Law, Article 94, a 10% deduction was applied).

In addition, for the digging of holes for the saplings, an excavator operator was hired for 3 days at a daily rental fee of 4,000₺. Payment for the equipment rental was made via check. (VAT and withholding tax in accordance with the General Application Communiqué for Labor Supply Services were appropriately applied).

PS: The purchase of Herek and Micro Greenhouses for planting sapling has not been accounted for.

a)

15/01/2024

258.Construction in Progress		**84.000**	
06.Investments for Bearer Plant			
MuğlaKavaklıdere Walnut Orchard			
Chandler Walnut Orchard Sapling Planting Labor			
	360 Taxes and Funds Payable		**8.400**
	102 Bank Accounts		**75.600**
Planting Walnut Saplings for the Bearer Plant (WalnutOrchard)			

b)

15/01/2024

258.Construction in Progress		**12.000**	
06.Investments for Bearer Plant			
Muğla Kavaklıdere Walnut Orchard			
Chandler Walnut Orchard Sapling Planting Labor Supply and Heavy Machinery Rental			
191. Deductible VAT %18		**2.400**	
	360 Taxes and Funds Payables		**2.160**
	103 Checks Given and Payment Orders		**12.240**
Labor Supply and Heavy Machinery Rental Rental			

Purchase of Fertilizer for Walnut Orchard Agricultural Production Activities

The company purchased 63 packages of fertilizer, each containing 18 kg, to meet the needs of the newly planted walnut saplings. The fertilizer contains phosphorus and potassium. Each sapling received 500 grams of fertilizer, with a total of 2,240 saplings. The company agreed with a supplier to purchase the fertilizer at 750₺per package, totalling 47,250₺ (including 1% VAT). Payment was made by check. (The fertilization will be carried out according to the Walnut Care Schedule in the specified months.)

17/01/2024

258.Construction in Progress	**46.782,218**	
07.Investments for Bearer Plant Muğla Kavaklıdere Walnut Orchard Chandler Walnut Orchard Purchase of Fertilizer		
191. Deductible VAT %18	**467.82**	
103 Checks Given and Payment Orders		**47.250,00**
Purchase of Fertilizer for Saplings in Bearer Plant (Walnut Orchard)		

Pesticide Application for Walnut Orchard Agricultural Production Activities

In walnut orchards, when the first budding occurs and reaches 30% growth, the first spraying is carried out 7-10 days later. The second spraying is conducted during the subsequent periods for codling moth control. The third spraying is done 40 days later. If the orchard is located below 600 meters above sea level, the fourth spraying is also performed. The budding for Chandler walnut saplings is expected between April 20 and April 25. Other periodic pesticide applications will be recorded in the accounting records as they occur.

The company has contracted a pesticide application firm for this task, agreeing to a payment of 30,000 TRY + 18% VAT, totalling 35,400₺. The payment was made by check.

18/01/2024

258.Construction in Progress	**30.000**	
07.Investments for Bearer Plant Muğla Kavaklıdere Walnut Orchard Pesticide Application		
191. Deductible VAT %18	**5.400**	
103 Checks Given and Payment Orders		**35.400**
Pesticide Application for the Saplings in Bearer Plant (Walnut Orchard)		

Constructing a Shelter for Personnel in Walnut Orchard Agricultural Production Activities

The company has decided to purchase two 3x7 meter (21 m^2) container cabins to serve as a management office, staff workspace, and equipment storage for the walnut orchard. The total cost for both units, including transportation and installation, is 140,000₺, with each unit priced at 70,000₺. Payment was made by check.

18/01/2024

258.Construction in Progress **138.613,86**
08.Investments for Bearer Plant
Muğla Kavaklıdere Chandler Walnut Orchard Purchase of 2 Shelter/Container

191. Deductible VAT %1 **1.386,14**

103 Checks Given and Payment Orders **140.000**
Purchase of 2 Shelter/Container for Bearer Plant (Walnut Orchard)

Agricultural Activity Production Related to Walnut Orchard (Bearer Plant Activation)

As a result of the investments made by the company and the processing of costs and accounting records, the product was harvested at the end of the third year. By the end of the fifth year, the business management decided that the walnut orchard product had reached the maturity stage, and the investment was completed. Consequently, the management decided to activate the investment costs.

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256 OtherTangibleFixAssets **1.686.195,46**
10 Investments for Bearer Plant
Muğla Kavaklıdere Chandler Walnut Orchard

258.Construction in Progress **1.686.195,46**
Completion and Activation of the Investment

After the activation, the walnut orchard, as a bearer plant, should record the periodic and year-end cost elements as "all costs related to bringing the asset to the location and condition necessary for it to operate as intended by management."The products obtained from these activities should be processed under the IAS 41 Agriculture Standard.

IAS41 "32.Inall cases, an entity measures agricultural produce at the point of harvest at its fair value less costs to sell. This Standard reflects the view that the fair value of agricultural produce at the point of harvest can always be measured reliably."

IAS 41 "28. A gain or loss arising on initial recognition of agricultural produce at fair value less costs to sell shall be included in profit or loss for the period in which it arises."

IAS41 "29.A gain or loss may arise on initial recognition of agricultural produce as a result of harvesting."

The walnut trees, referred to as bearer plants, are valued as bearer plants according to the IAS 16 Property, Plant and Equipment standard. The fruit of the mature and harvested walnut trees is valued according to the IAS 41 Agriculture standard.

In the accounting process, the measurement of bearer plants is done by selecting either the revaluation model or the cost model for their valuation.

Since the bearer plants are classified as tangible fixed assets, they are measured at cost. Considering depreciation, the calculations are made according to the IAS 16 Property, Plant and Equipment standard, based on the asset's useful life and the expected benefits derived from the asset. If there is any impairment of the asset, IAS 36 Impairment of Assets Standard is applied.

CONCLUSION

Effective accounting is crucial for businesses in the agricultural sector due to the factors such as trade in agricultural imports and exports, the pursuit of investment-friendly opportunities, cost implementation techniques, compliance with legal and international regulations, and processes like measurement, valuation, and depreciation. Thus, businesses must systematically track and enhance their accounting practices to remain open to development.

From the perspective of countries, the agricultural sector is crucial for economic indicators in the global market. However, when the sector does not receive the necessary attention due to superficial approaches and practices, concepts such as development, welfare, and progress become unattainable. The application of standardized accounting practises in agricultural activities has become essential, both globally and in Turkey, for economic indicators to gain meaningful significance.

Therefore, the publication of IAS 41 Agriculture Standard and IAS 16 Property, Plant, and Equipment Standard has transformed perspectives on agriculture and agricultural activities, ensuring the reliability and transparency of agricultural accounting.

The accounting systems of businesses must have distinctive features as a result of their activities, ensuring that the information reported in financial statements provides answers aligned with the users' objectives. The application of the concepts of understandability, relevance, reliability, and comparability within the framework of International Accounting Standards is essential.

Turkey ranks fourth in the world in walnut production. However, this production does not meet domestic demand, and the country has become an importer of walnuts. One of the most significant challenges in walnut cultivation is the insufficiency of standardized products that meet the desired characteristics. As a result, the establishment of closed orchards with well-known varieties is of great importance.

In Turkey, with the assumption that domestic consumption is between 150,000 and 160,000 tons, two-thirds of this consumption is met by imports, and one-third by domestic production. Over the past five years, imports have reached a value of 650$ million. Given the high domestic consumption of walnuts, increasing production is crucial. This would help limit the foreign currency spent on imports, boost exports, and contribute to reducing the current account deficit.

However, to enhance walnut production, the Turkish Ministry of Agriculture and Forestry, along with the Ministry of Trade, has implemented initiatives in collaboration with the Agricultural and Rural Development Support Institution. These initiatives are also supported by the Instrument for Pre-Accession Assistance (IPA), specifically its Rural Development program established by the European Union to support candidate and potential countries. The government should also focus on increasing incentives, particularly in areas such as **"**Price Stability" and "Fertilizer and Fertilization", to promote the production of high-quality walnut fruit with elevated average yields, which can be achieved through the provision of affordable and quality inputs,

Although trade is easy on a global scale, it also presents a variety of challenges. In the global world, changes are becoming evident across all sectors. In the industrial and agricultural sectors, climate change, countries' pursuit of self-sufficiency for their populations and the global community, changes in financial and fiscal operations, digitization, artificial intelligence, the Internet of Things, "Sustainable Agriculture," and "New Good Agriculture" are the concepts that must be followed and monitored as a necessity.

In our study, integrating all these factors, it is essential for producer businesses, assuming compliance with legal regulations in walnut and other bearer plant production and with technical aspects of cultivation, to operate within the framework of both local and international accounting standards and concepts. The study will also contribute to practical applications by providing sample accounting entries for the recognition of bearer plants.

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