

RECOGNITION, EVALUATION AND ACCOUNTING OF PRODUCTIVE BIOLOGICAL ASSETS

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Abstract: *Productive biological assets hold a special place in agricultural companies. A biological asset is a living animal or plant, such assets being included, from the accounting point of view, in the structure of tangible assets. We seek to present, in the pages of this article, the main aspects related to their recognition, assessment and accounting, combining the theoretical and the empirical research. We will make an incursion in the specialised literature and we will present the peculiarities of the accounting of the biological assets. The considerations underlying this article also take into account the fact that the productive biological assets are accounting structures approached in this field relatively recently, but, as we will prove herein, important for any agricultural unit.*

Key words: *recognition, valuation, agricultural unit, productive biological assets, accounting operations.*

INTRODUCTION

Due to its specificity, the agricultural activity, determines a set of peculiarities at the level of the accounting records of the operations performed. On the other hand, the relevance of the specific operations is also supported by the financial and accounting supporting documents, strictly oriented towards the agricultural field [1].

The problems of the agricultural activities have also been approached at international level through the International Financial Reporting Standards (IFRS). The IAS/IFRS set developed and issued IAS 41 – Agriculture, in which we can find mentions concerning the accounting treatment, the manner of presenting financial statements or agricultural activities in general [5].

Agriculture is the cultivation of land and raising livestock with the purpose of satisfying one of the most important human needs: food [8]. Definitions and characteristics of the agricultural activity can be found in the International Financial Reporting Standards (IFRS), more specifically in IAS 41 *Agriculture*. According to item 5 of this Standard, the agricultural activity *is the management by an entity of the biological transformation and harvest of biological assets for sale or for conversion into agricultural produce or into additional biological assets* [13].

In Romania, the legislative support completes the aspects related to the accounting records of the agricultural activities by a few definitions of the words, accounts used, conditions for the recognition and assessment in the accounting (determining the cost) [14, 15].

MATERIALS AND METHODS

In IAS 41 we will find a few words and elements specific to agriculture:

- biological asset – a living animal or plant;
- biological transformation – the processes of growth, degeneration, production and procreation that cause qualitative or quantitative changes in the biological asset;
- agricultural produce – the harvested product of the entity's biological assets;
- A group of biological assets - an aggregation of similar living animals or plants;
- Harvest - the detachment of produce from a biological asset or the cessation of a biological asset's life processes [13].

The scope of application is related to the biological assets that have a longer life span than the accounting reporting period:

- biological assets (living animals and plants) that assimilated to the growing, cultivation, regeneration, reproduction processes lead to the obtaining of an agricultural produce;
- agricultural produce that is to be harvested.

Table 1.

Biological assets, agricultural produce and products that are the result of processing after harvest

<i>Biological assets</i>	<i>Agricultural produce</i>	<i>Products that are the result of processing after harvest</i>
Sheep	Wool	Yarn, carpet
Trees in a plantation forest	Felled trees	Logs, lumber
Plants	Cotton	Thread, clothing
	Harvested cane	Sugar
Dairy cattle	Milk	Cheese
Pigs	Carcass	Sausages, cured hams
Bushes	Leaf	Tea, cured tobacco
Vines	Grapes	Wine
Fruit trees	Picked fruit	Processed fruit

Source: IASB 2015 - IFRS

It does not include items covered by other standards [6]:

- the harvested agricultural produce (they are covered as stocks according to IAS 2 – Stocks: wool, meat, fruit, etc.);
- land on which various processes related to the biological assets are carried out (they will be approached according to the provisions of IAS 16 – Property, Plant and Equipment, IAS 17 – Leasing, IAS 40 – Investment Property);
- intangible items (assimilated to the intangible assets covered by IAS 38 – Intangible Assets);
- agricultural activities for which there is no management possibility (fishing);
- non-renewable resources (minerals, gas, oils, etc.)

Living animal or plant result in biological assets. According to the legal provisions in force, an entity shall recognise a biological asset or agricultural produce when, and only when [14, 15]:

- the entity controls the asset as a result of past events;
- it is probable that future economic benefits associated with the asset will flow to the entity; and

- the fair value or cost of the asset can be measured reliably.

The main accounting documents used in practice are [9]:

- **Supporting documents**, which have the role of memorizing, collecting and recording data related to the economic and financial activity and are considered **documents of entry** in the information system, comprising a wide variety of documents (parts), such as: invoices, payrolls, reception notes, receipts, etc.

- **Accounting registers (accounting files)**, which have the role of processing (treating), storing and verifying the accounting data and information through own models and procedures characteristic to the accounting method, including: the Journal, the General Ledger, the Inventory Ledger, the ancillary records, trial balances, etc.

- **The synthesis and reporting accounting documents (the annual financial statements)**, which have the role of centralizing, synthesizing and sending information to internal and external users, which are thus **documents of exit** from the accounting information system or flow, comprising the balance, the profit and loss account, etc.

A biological asset must be assessed at the initial recognition and at the end of each reporting period at its fair value minus the costs generated by sales, unless its fair value cannot be reliably assessed [10].

The determination of the fair value of biological assets can be done easier by grouping them by means of significant characteristics: quality, etc., but this value will be relevant if it is based on an active market. If an entity has access to several active markets, it will use the most relevant market. For example, if an entity has access to two active market, it will use the price existing in the market it expects to use [4].

If there is no active market, for the determination of the fair value, an entity uses one or more of the following criteria, as the case may be:

- a) the most recent trading price in the market, provided that between the trading date and the end of the reporting period there are no significant changes of the economic circumstances;
- b) the market prices for similar assets adjusted appropriately in order to reflect the differences; and
- c) the reference prices of the sector (the value of an orchard expressed per exported box, production unit or hectare, the value of the livestock expressed per kilogram of meat) [12].

Another aspect related to the agricultural products is the one concerning the assessment of the produce harvested on long periods, because the market price records major fluctuations between the moment when harvesting starts and the moment when it ends (the early fruit or vegetables from the beginning of the harvesting have high prices, the quantity existing in the market being low, and then, as the harvesting process is completed, the price decreases) [11].

RESEARCH RESULTS

For accounting purposes, we will assume the existence of a hazelnut tree plantation purchased in order to be exploited for a period of 10 years. The production obtained is represented by hazelnuts that are to be sold, and wood. The purchased plantation has a total surface of 6 ha.

The purchase was made based on a contract for a total value of 292,000 lei (55,000 lei for the land, 237,000 lei the actual plantation).

The hazelnut plantation obtained was of 22,543 kg, sold for 22 lei/kg, and the wood of 50 m³ which are to be sold for a price of 190 lei/m³.

The fair value of the hazelnut production:

$$22,543 \text{ kg} * (\text{costs of } 22 \text{ lei/kg} - 5 \text{ lei/kg}) = 383,231 \text{ lei}$$

The fair value of the wood:

$$50 \text{ m}^3 * (\text{costs of } 190 \text{ lei/ m}^3 - 55 \text{ lei/ m}^3) = 6,750 \text{ lei}$$

From the accounting point of view, according to the legal norms in force the following accounts are used (with the purpose of reflecting specific operations) [14]:

217 "Productive biological assets" (A) is debited with the value raises or increases, and credited with outputs, value decreases, and can have a debit balance, which reflects the value of the productive biological assets found in the management of the entity at a given moment.

2817 "The depreciation of productive biological assets" (P) is credited with the amount of the depreciation calculated in correspondence with the respective expense accounts and is debited when it is assigned. The credit balance expresses the amount of depreciation calculated for the existing biological assets in the entity.

The registration in the accounting will be made as follows:

1. The purchase of the plantation and the settlement of the debt related to the purchase

<u>292,000 lei</u>	%	=	404	<u>292,000 lei</u>
			Suppliers of fixed assets	
237,000 lei	217			
	Productive biological assets / Hazelnut tree plantation			
55,000 lei	2111			
	Land/ Hazelnut tree plantation			
 <u>292,000 lei</u>	 404	 =	 5121	 <u>292,000 lei</u>
	Suppliers of fixed assets		Bank accounts in lei	

2. The registration of the monthly amortization of the hazelnut tree plantation for a period of 10 years: 237,000 lei/10 years/12 months= 1,975 lei

<u>1,975 lei</u>	6811	=	2817	<u>1,975 lei</u>
	Operating expenses related to the depreciation of the fixed assets		Depreciation of the productive biological assets	

3. Registration of the production of hazelnuts and related wood

<u>383,231 lei</u>	347	=	711	<u>383,231 lei</u>
	Agricultural produce / Harvested hazelnuts		Incomes related to the costs of the product stocks	
 <u>6,750 lei</u>	 347	 =	 711	 <u>6,750 lei</u>
	Agricultural produce / Wood		Incomes related to the costs of the product stocks	

4. Registration of the sale of the production of hazelnuts and related wood

<u>495,946 lei</u>	4111	=	7017	<u>495,946 lei</u>
	Customers		Incomes from the sale of agricultural produce / Hazelnuts	
 <u>9,500 lei</u>	 4111	 =	 7017	 <u>9,500 lei</u>
	Customers		Incomes from the sale of agricultural produce/ Logs	

5. Registration of the discharge for the sold agricultural produce

<u>383,231 lei</u>	711	=	347	<u>383,231 lei</u>
	Incomes related to the costs of the product stocks		Agricultural produce / Harvested hazelnuts	
 <u>6,750 lei</u>	 711	 =	 347	 <u>6,750 lei</u>
	Incomes related to the costs of the product stocks		Agricultural produce / Wood	

CONCLUSIONS

As we can see in this study, nowadays accounting is increasingly more diversified, organized and oriented towards various sectors depending on the specificity and economic and financial needs. The activities of each sector, as they are reflected in the accounting, determine the level of complexity of the organization of the latter.

The new concepts presented in the study detailed hereinabove are based on the accounting regulations applicable to this field (also used in the study), as well as the national and international accounting norms specific to the agricultural norms among others.

The short monography presented in relation to the productive biological assets highlight part of the elements of novelty brought to the forefront by the legal provisions in the accounting field and also by the specific professional norms (here we refer to the accounts used):

217 “Productive biological assets” (A) (this account replaces the old account 2134 “Animals and plantations”)

2817 The depreciation of productive biological assets” (P)

Due to the fact that in the modern society we need to know, at any moment, the situation and results of an entity, in order to be able to control their evolution all the time, we will need the accounting tool that helps coordinate the existing resources and the registration of the asset movements.

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