

**COMPARATIVE STUDY ON THE RECOGNITION AND  
EVALUATION OF BIOLOGICAL ASSETS ACCORDING TO  
NATIONAL REGULATIONS AND IAS 41 AGRICULTURE**

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**Abstract**

*Within the European Union as well as internationally, there is an ongoing concern for the harmonization of accounting systems in order to create a unitary accounting procedure that should ensure the flow of financial relations between all states. This process involves a lot of stages according to the requirements imposed by the economic and social development of the different states, groups of countries as well as internationally. The entry of Romania into the European Union requires them to know and understand very well the accounting standards in order to align them to the specific of the Romanian economy. This study refers to the legal provisions regarding the implementation of IAS 41 Agriculture, in particular to the recognition and evaluation of biological assets owned by entities in the field of agriculture. We will follow the degree of harmonization of the national accounting regulations with IAS 41 Agriculture as well as the possible discrepancies between them.*

**Keywords:** *IAS 41 Agriculture, Directives, Biological Assets, National Regulations, Accounting*

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**1. Introduction**

One of the pillars of sustainable development of the national and international economy is represented by the concept of bio-economy, the basis

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of the revolution of the entities with object of production activity, especially agricultural production. It follows that with the development of the national economy and its regulation, a continuous development of agricultural entities is necessary.

The mission of this article is to present the existing convergences and divergences between national accounting regulations and IAS 41, by presenting theoretical and practical aspects regarding the activity of agricultural entities in optimal parameters and with a faithful presentation of financial information to third parties.

## **2. Definitions and characteristics regarding agricultural activity and biological assets**

Agricultural entities comprise "all enterprises and organizations with legal personality producing agricultural products, which own or use agricultural and/ or animal land and carry out agricultural activity, regardless of their organizational and legal form and ownership" (<http://www.statistica.md>).

Agricultural activity is, in accordance with IAS 41, "the management by an entity of biological processing and harvesting of assets for sale or processing into agricultural products or additional biological assets".

The activity of agricultural entities, unlike the activity of other economic entities, has some peculiarities, among which we specify the following:

- ✓ land (land) which has an important role in the plant sector because it is used to obtain the agricultural product, thus differing from the land of an entity with construction activity;
- ✓ the costs incurred to achieve the biological transformation are gradually borne, a technological process can take several years if we talk about vines or fruit trees;
- ✓ raw materials and materials used in the technological process may be in smaller quantities than in a food producing entity for example, because in agricultural production an important role is played by newly created organic matter (example: production of calves, mowing of lucerne).

Agricultural activity is divided according to IAS 41 into two major sectors, namely: the livestock sector and the plant sector.

Animal husbandry is "the science of the knowledge, reproduction, breeding, feeding, breeding and exploitation of agricultural animals." (<https://ro.wikipedia.org>)

Agricultural entities in the livestock sector have one of the following activities:

- Raising domestic animals (cattle, pigs, sheep, horses, birds, goats, rabbits, other animals)
- Sericulture (growing silkworms)
- Beekeeping (raising bees)
- Aquaculture (raising fish, algae, crustaceans and molluscs)

Plant production is “the system of growing and multiplying one or more plants, in order to obtain agricultural products. ” (CECCAR, 2004)

Agricultural entities in the plant sector have one of the following activities:

- Vegetable growing (vegetable growing)
- Field plant culture
- Cultivation of fruit trees and shrubs (fruit growing)
- Pasture and hay cultivation
- Viticulture (vine culture)
- Forestry (cultivation, management and exploitation of forests)
- Mushroom culture
- Cultivation of decorative plants (floriculture)

Both the Order of the Minister of Public Finance (OMFP) 1802/2014 and IAS 41 “Agriculture” emphasize two terms specific to agricultural activity in the two sectors, namely: biological asset and agricultural product.

The biological asset is "a living animal or plant." (CECCAR, IFRS Standards , 2017) Alfalfa field used to obtain bales for animals, Grapes from which grapes are harvested, fruit trees from which fruits are harvested, raspberry plantation, trees from which firewood is obtained but which are not cut, cows milk, sows used for breeding, are some examples of biological assets.

The agricultural product is "the product harvested from the biological assets of the enterprise". (CECCAR, IFRS Standards , 2017)

Mowed alfalfa, milk, grapes, raspberries, fruits harvested from fruit trees, cut logs are examples of agricultural products obtained from biological assets.

### **3. Recognition and evaluation of biological assets in accordance with IAS 41 regulations agriculture**

An important step towards the harmonization of accounting records in agriculture is the emergence of IAS 41 "Agriculture" in 2001, which seeks to describe the accounting treatment of "recognition and measurement of

biological assets and agricultural products and the presentation of information on these items". in the financial statements ”.

IAS 41 sets out the general rules for valuing biological assets and agricultural products at fair value less estimated point-of-sale costs, or in exceptional cases only on initial recognition shall be measured at cost less any accumulated depreciation and any impairment losses. accumulated skills.

IAS 41 applies to the accounting of biological assets, agricultural products at harvest and government subsidies related to biological assets measured at fair value.

The standard defines biological assets as "a living animal or a living plant, and a group of biological assets is a group of similar living animals or plants".

The animal is defined as "a single or multicellular being endowed with the ability to feel and move"

The plant is defined as a "generic name given to plant organisms, with a simpler organization than animals and which extract their food through the roots, characterized by the presence of chlorophyll, the fact that the cell membrane is made of cellulose and, in the case of higher species , by making up the body from roots, stem and leaves ”.

IAS 41 does not apply to the following:

- › Biological assets held for recreational purposes (eg amusement parks, zoos, botanical gardens) which do not have commercial activities
- › Investment in a forest to reduce carbon in the atmosphere
- › Animals and birds kept for racing (greyhounds, horses, frogs and pigeons) and fighting (dogs and roosters)
- › Animals kept for guard and protection (dogs)
- › Forest curtains to protect slopes and banks
- › Live animals and plants kept for exhibitions and competitions
- › Live animals and plants kept for decorative purposes only
- › Animals kept only for work (draft horses, mules, oxen, etc.)

Agricultural products are defined by IAS 41 as "products harvested from the organisation's biological assets".

Depending on the purpose of the agricultural activity, agricultural products can be primary or secondary products.

The main products are those for which the production process was organized and production was planned.

By-products are those obtained together with the main products, as a result of the biological characteristic of agricultural production.

Depending on the main purpose for which some plants are grown or some animals are raised and cared for, the same product can be considered primary or secondary.

In the following table I will give some examples of agricultural products from which main and secondary products are obtained.

**Table 1. Main product and secondary product proceed by author**

<b>Agricultural product</b>	<b>Main product</b>	<b>Secondary product</b>
Flax stalks	In for the string	In for oil
Maize	Corn grains	Corn cobs
Wheat	Wheat grains	Straw
Calves for meat	Meat	Skin
Pork for meat	Cases	Intestines, hooves
Peonies	Cut plants for ornament	Leaf cuttings

*Source: processed by the author*

#### **4. Recognition and evaluation of biological assets according to national regulations**

On December 24, 1991, the Accounting Law number 81 appeared, which was the first legislative norm regarding the Romanian accounting system after the fall of the communist regime.

This law regulated the accounting of entities, but did not have a specificity towards the activity of agricultural entities, so that agricultural entities had to customize their accounting records according to the general chart of accounts, thus developing analytical accounts specific to each entity.

A continuous improvement of the legislative framework was envisaged, thus appearing OMFP 3055 from 2009, which, however, changed part of the accounts of the general chart of accounts, but which did not introduce specific accounts for agricultural entities.

The Order of the Ministry of Public Finance (OMFP) 1802/2014 which came to replace OMFP 3055/2009, given the need for harmonization with international accounting standards introduced in the general chart of accounts and accounts specific to the activity of agricultural entities, namely:

- 217 "Productive biological assets",
- 227 "Productive biological assets in supply",
- 2817 "Depreciation of productive biological assets",
- 2917 "Adjustments for depreciation of productive biological assets",
- 326 "Biological assets of the nature of stocks in stock",

- 347 "Agricultural products",
- 217 "Inventory biological assets",
- 368 'Price differences on inventories of biological assets',
- 3956 „ Adjustments for the impairment of biological assets such as stocks held by third parties ”.
- 396 "Adjustments for the depreciation of biological assets in the nature of stocks",
- 606 „ Expenditures on biological assets such as stocks ”,
- 7018 "Income from the sale of biological assets in the nature of stocks".

In addition to the introduction of these specific accounts, new specialty terms have also been introduced such as: productive biological assets, biological assets such as stocks and agricultural products.

Productive biological assets are defined by OMFP 1802 as “any assets other than inventories of biological assets; for example, dairy animals, vines, fruit trees and trees from which firewood is obtained but not cut down. Productive biological assets are not agricultural products but rather self-generating assets. ”

A biological asset is "a living animal or a living plant."

A biological asset is recognized in the accounts only if it cumulatively meets the following conditions:

a) the entity controls the asset as a result of past events;

b) the future economic benefits associated with the asset are likely to accrue to the entity; and

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

In agricultural activity, control may be evidenced, for example, by the ownership of cattle or by the marking or marking of cattle in another way at the time of acquisition, birth or weaning. Future benefits are normally estimated by assessing their significant physical characteristics.

Biological assets are often physically attached to the land on which they are located (for example, trees in a forest plantation). There may not be a separate market for biological assets that are attached to the land, but there may be an active market for the combined assets, ie for the biological assets, the vacant land and its facilities, considered as a whole.

An entity may use information about combined assets to measure the fair value of biological assets. For example, the fair value of vacant land and its facilities can be deducted from the fair value of the combined assets to determine the fair value of the biological assets.

Inventory biological assets are defined as "those to be harvested as agricultural products or sold as biological assets".

Examples of biological assets in the nature of stocks are "meat-producing animals, animals kept for sale, fish from fish farms, crops such as maize and wheat, and trees grown for timber."

Agricultural products are "those resulting at the time of harvest from the entity's biological assets, for example, wool, cut trees, cotton, milk, grapes, harvested fruit, etc."

If the entity processes the agricultural products, the finished products result.

To exemplify the four categories of assets, we considered it necessary to reproduce the following table.

**Table 2. Example of assets specific to an agricultural entity, proceed by author**

<b>Productive biological assets</b>	<b>Inventory biological assets</b>	<b>Agricultural products</b>	<b>Finished product</b>
Dairy animals	Dairy animals offered for sale	Milk from animals	Dairy products obtained by processing milk
Vine	Vine bushes proposed for sale	Pickled vegetables	Wine, must, grape compote, etc.
-	The wheat field	Harvested wheat	Flour
Beech forest	-	Cut branches for firewood	Processed logs, timber, etc.
Fruit trees	Seedlings proposed for sale	Picked fruits	Fruit jam, compote, etc.

*Source: processed by the author*

### **5. Case study at an agricultural entity**

In order to exemplify the theoretical aspects presented above, we will present a part of the secular economic operations of an agricultural entity, which we will interpret from an accounting point of view according to the regulations of the communist and post-communist period.

The agricultural entity Agrobovina Srl has two main objects of economic activity, namely: cattle breeding and cultivation of field plants.

The entity holds the following assets in equity:

- 30 dairy cows aged 2-3 years at a total value of 180,000 p.m.

- 15 pregnant heifers with an age of 1.5 years at a total value of 70,000 p.m.
- 5 bulls with 3 years of age at a total value of 50,000 p.m.
- 10 calves with the calf between 2 weeks and one month.
- 50 ha of arable land at a value of 60,000 p.m. on which wheat, corn, soybeans and alfalfa are grown

The entity carries out the following operations during the month:

1. Sells 10 dairy cows aged 2-3 years at a total value of 80,000 p.m.
  - 1.1. According to international accounting regulations, the recognition of the operation in accounting is done according to the following formula:

4111	=	707	80.000 u.m.
„Customers”		„Revenue from the sale of goods”	
607	=	217	80.000 u.m.
„Expenses for the sale of goods”		„Productive biological assets”	

- 1.2. According to the OMFP 1802/2014 regulations, the recognition of the operation in accounting is made according to the following formula:

4111	=	7583	80.000 u.m.
„Customers”		„Income from the sale of fixed assets”	
6583	=	217	80.000 u.m.
„Expenses for disposal of fixed assets”		„Productive biological assets”	

2. Purchase 2 dairy cows aged 2 years at a total value of 10,000.

- 2.1. According to the accounting regulations IAS 41, the recognition of the operation in accounting is made according to the following formula:

217	=	404	10.000 u.m.
„Productive biological assets”		„Providers”	

- 2.2. According to OMFP 1802/2014 regulations, the recognition of the operation in accounting is made according to the following formula:

$$\begin{array}{rcll} 217 & = & 404 & 10.000 \text{ u.m.} \\ \text{„Productive biological} & & \text{„Providers”} & \\ \text{assets”} & & & \end{array}$$

3. Five pregnant pregnant heifers, their book value being 25.000 p.m.

3.1. According to the accounting regulations IAS 41, the recognition of the operation in accounting is made according to the following formula:

$$\begin{array}{rcll} 217.2 & = & 217.1 & 25.000 \text{ u.m.} \\ \text{„Productive biological} & & \text{„Productive} & \\ \text{assets”} & & \text{biological assets”} & \end{array}$$

3.2. According to OMFP 1802/2014 regulations, the recognition of the operation in accounting is made according to the following formula:

$$\begin{array}{rcll} 217.2 & = & 217.1 & 25.000 \text{ u.m.} \\ \text{„Productive biological} & & \text{„Productive} & \\ \text{assets”} & & \text{biological assets”} & \end{array}$$

4. Calved calves are recorded at a production cost of 2,000 u.m.

4.1. According to the accounting regulations IAS 41, the recognition of the operation in accounting is made according to the following formula:

$$\begin{array}{rcll} 217 & = & 711 & 2.000 \text{ u.m.} \\ \text{„Productive biological} & & \text{„Revenues related to} & \\ \text{assets”} & & \text{the costs of product} & \\ & & \text{stocks”} & \end{array}$$

4.2. According to OMFP 1802/2014 regulations, the recognition of the operation in accounting is made according to the following formula:

$$\begin{array}{rcll} 217 & = & 711 & 2.000 \text{ u.m.} \\ \text{„Productive biological} & & \text{„Revenues related to} & \\ \text{assets”} & & \text{the costs of product} & \\ & & \text{stocks”} & \end{array}$$

5. Wheat and alfalfa seeds are purchased for sowing arable land worth 5.000 u.m.

5.1. According to the accounting regulations IAS 41, the recognition of the operation in accounting is made according to the following formula:

$$\begin{array}{rcll} 302 & = & 401 & 5.000 \text{ u.m.} \\ \text{„Consumables”} & & \text{„Providers”} & \end{array}$$

5.2. According to OMFP 1802/2014 regulations, the recognition of the operation in accounting is made according to the following formula:

$$\begin{array}{rcll} 302 & = & 401 & 5.000 \text{ u.m.} \\ \text{„Consumables”} & & \text{„Providers”} & \end{array}$$

## 6. Conclusions

Regarding the national legislation and IAS 41 Agriculture, there is a similarity of definitions and the way of recognition and evaluation of biological assets, so we can say that the national legislation has been aligned to the international one to a large extent.

Modern accounting has particularities of various fields and activities, and agriculture is one of the areas of economic life in which the complexity of the activity also affects the organization of accounting. OMFP 1802/2014 brought news both conceptually and of the General Chart of Accounts. The concepts are based on IAS 41 "Agriculture".

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