

**VALUATION OF BIOLOGICAL ASSETS AND AGRICULTURAL PRODUCTION  
ACCORDING TO IAS 41- THEORY VERSUS APPLICABILITY**

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**Abstract.** *Implementation an accountant system for the enterprises with agricultural activity can represent an instrument importantly in fight with the others competing. The efficiency this system not can be recognized if only by an increase in informational quality, essential in insurance correctness of process of reporting this information.*

*Starting from these aspects, the objective of our paper is oriented on the analysis of the characteristics defining this specific system to the agricultural entities trough the necessity of applying the provisions of IAS 41, for listed companies, respectively by applying OMFP 1802/2014 in accordance with Directive 34 CEE/2013.*

**Keywords:** *IAS 4, agricultural activity, OMFP 1802/2014, biological assets*

**JEL:** *M 41, O 13*

### **Introduction**

Agriculture is an important branch of any national economy with functions of the most diverse: biological, main source of economic activity and use of the labor force, ecological factor of environmental protection and others.

Agriculture plays an essential role in the world economy. Nevertheless, for a long time accounting in the field of agriculture has not represented a priority for researchers and normalizers. On an international scale, barely has it been approved in december 2000 a standard dedicated exclusively to the agricultural field: IAS 41. This standard has introduced in the accounting of the agricultural sector the evaluation model in fair value.

The purpose of the present paper is to analyze the evaluation criteria of the biological assets and agricultural production according to international standards and national regulations. The accounting regulations from Romania are in accordance with the European directives and, in many aspects, converging with the IFRS referential. The IAS 41 standard provisions are not reflected directly in the Romanian regulations yet.

The implementation of the IAS 41 standard on the European scale has determined a series of thematic divergence which were noticed in specialized literature. There have been studies that have analysed the effect and the consequences of the adoption of this standard in countries like: Estonia, Lithuania, Spain, Sweden. It was also analysed the impact of the standard on the entire agricultural sector or only its implications in some branches from the agricultural sector : forestry branch, land cultivation , viticulture (Durac M., 2016, p.16).

Authors Barry J. Epstein and Eva K. Jermakowicz (2007, p.988), remark after an analysis of the financial situation published by the company from the agricultural field, the fact that the interpretation of these standards in the agricultural field has led to of decrease of the evaluation capacity of the financial performance of the societies and to compare those from the same sector.

Elad (2004, p.633) thinks that the fair value evaluation and the elimination of the historic costs will determine a series of theoretical and practical problems and its adoption will determine major problems. Aryanto (2011, p.4) considers that the fair evaluation for all biological assets is the problem because not all the assets from this category will determine a capital increase.

### **2. Recognition and evaluation according to IAS 41**

IAS 41 standard treats the transformation management of the biological assets. The Standard will be applied to account for the following elements, when these refer to agricultural activities: *biological assets, agricultural production at the harvesting point and governmental subventions (IAS/IFRS, 2013, paragr1, p. A.1068).*

The applicability sphere of the IAS 41 standard

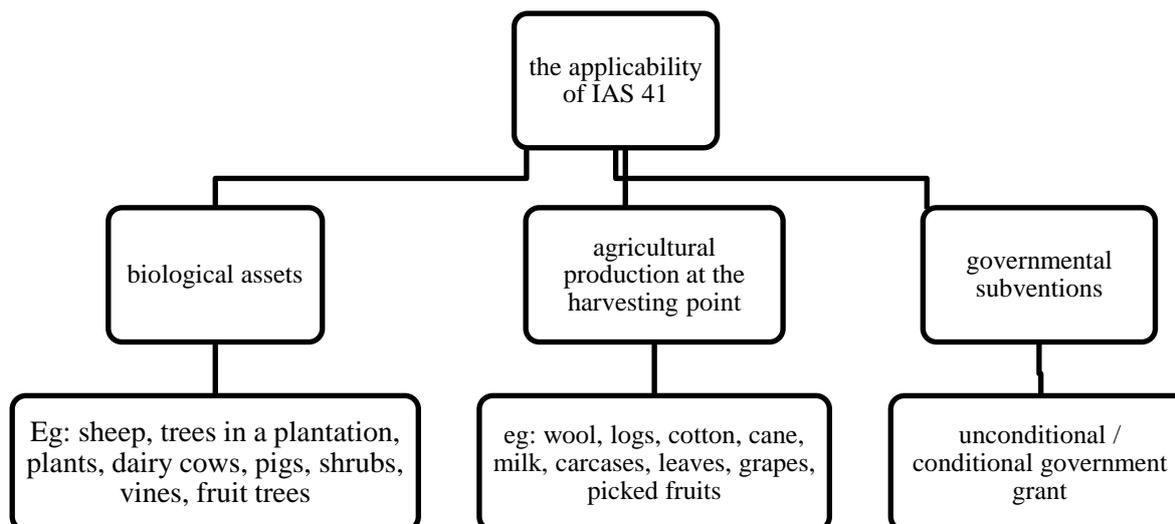


Figure 1 The applicability of IAS 41 Standard

Source: Author's own processing

Biological assets represent the basic assets of the agricultural activities and are especially detailed for their capacity to transform. Biological assets are involved in two types of production: the first presupposes the modification of the assets, for example, by quality growth or improvement by the quantitative decrease or by quality deterioration or by reproduction; and the second refers to the creation of some separated products which are called agricultural production.

Biological assets encompass any living plant or animal. The biological transformation represents the growing process, aging, production and processing of the biological assets. This transformation leads to either the emergence of an agricultural product, or to a modification of the asset.

Recognition of biological assets

A biological asset can be evaluated at the initial recognition and on every date of the balance sheet of accounts at the fair value minus the costs estimated at the selling point, excepting those biological assets for which are not available prices or values determined on the market and for which the alternative estimations of the fair value are not credible.

The harvested agricultural products will be evaluated at the fair market value minus the estimated costs at the selling point at the harvesting moment.

On the occasion of initial accounting and at the end of every exercise, biological assets must be evaluated at their fair value diminished by the selling costs vânzare (Feleagă L., Feleagă N., Răileanu V., 2012, p.14).

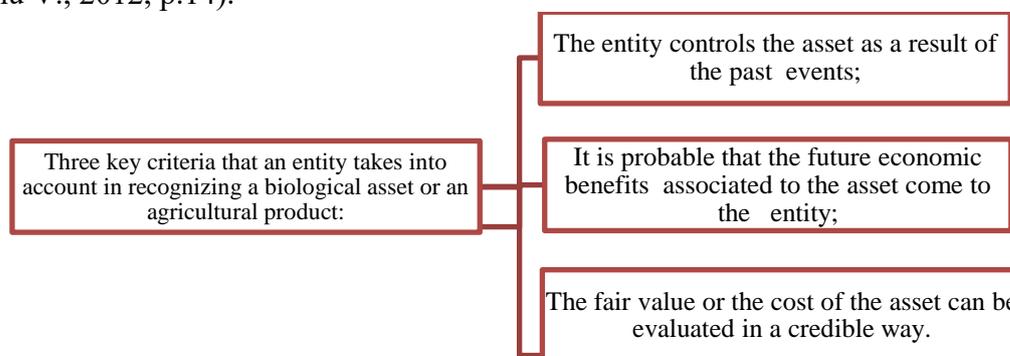


Figure 2. Recognition biological assets according to IAS 41

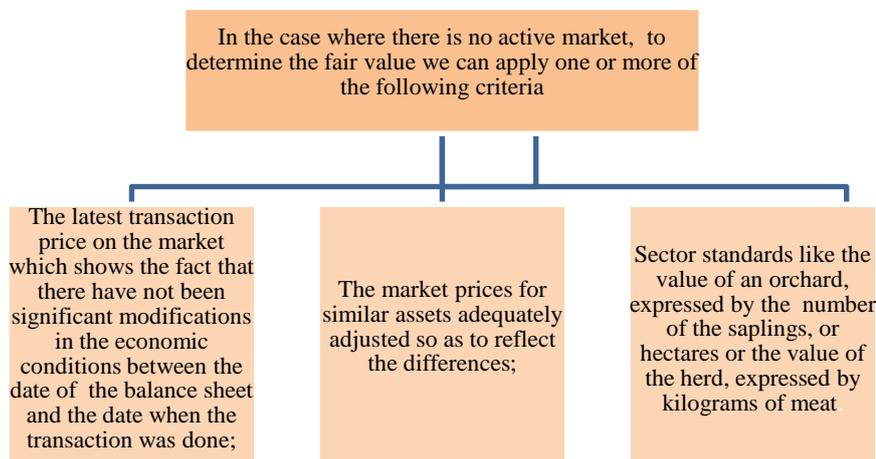
Source: Author's own processing according to IAS 41

The determination of the fair value of a biological asset or agricultural product will be realized easier by grouping the biological assets or the agricultural products in terms of their

significant attributes, for instance, in terms of age or quality. This grouping is made in accordance with the attributes used on the market at the moment of fixing the prices.

If for a biological asset or an agricultural product there is an active market, the quotation on that market represents a proper basis for the determination of the fair value of the asset. If an entity has access to different active markets, the entity uses the most relevant market.

*We consider that the evaluation of the biological assets and agricultural production at the fair value reflects an image as real as possible of the value that biological assets and agricultural products in accounting should reflect, because the fair value represents a value of the active market.*



**Figure 3. The evaluation when there is no active market**

*Source: author's own processing according to IAS 41;*

### *The incapacity of evaluation in a credible way of the fair value*

It is assumed that the fair value can be evaluated in a credible way for a biological asset. However, this hypothesis can be ignored only at the initial recognition of a biological asset for which there are not available prices or values determined on the market and for which the alternative estimations of the fair value are certainly not credible. In these situations, that biological asset will be evaluated at cost minus any accumulated amortisation and any losses from accumulated deteriorations. (IAS/IFRS, 2013, paragr.30, p. A1073).

Once the fair value of such a biological asset can be estimated in a credible way, an entity will evaluate it at the fair value minus the estimated costs at the selling point. Once a fixed asset obeys the classification criteria as detained in view of selling (or is included in a group that will be ceded, classified as detained in view of selling), in accordance with IFRS 5 Fixed assets detained in view of selling and interrupted activity, it is assumed that the fair value can be evaluated in a credible way. (Toma C., 2005, p.135).

*We appreciate that certain categories of biological assets do not have a reference market to which we report, as a result of which we can not always evaluate the biological production assets at fair value. The amount we must report in this situation is the cost minus any amortization and any impairment loss associated with that asset.*

Sometimes, the fair value can be approximated by cost, especially when there have been few biological transformations from the moment of the recognition of the initial costs. For example, for the saplings of fruit trees planted immediately before a date of the balance sheet; or it is not expected that the impact of the biological transformation on the price be significant. For instance, for the initial growth in a pine plantation that has a 30 year' production cycle.

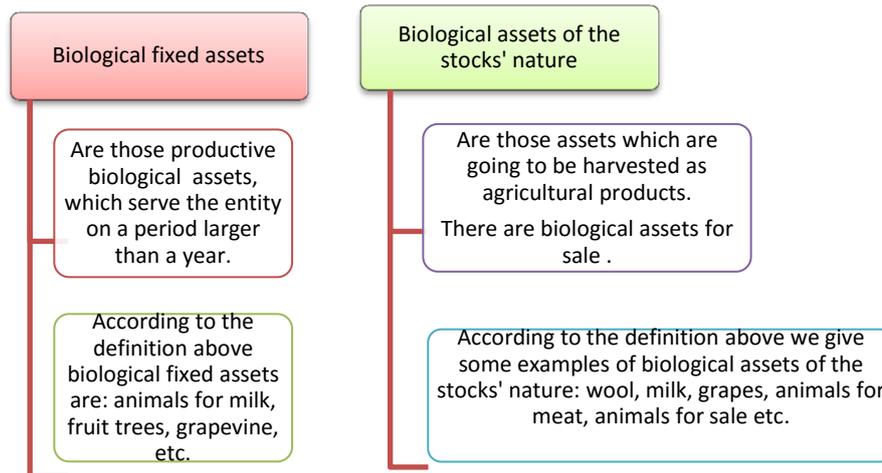
To determine the fair value of the biological assets, an entity can use information related to combined assets. For example, to determine the fair value of the biological assets the fair value of the terrain as such and its improvements can be deduced from the fair value of the combined assets.

We think that the implementation of these standards and principles in Romania could lead to reliable accounting especially with regard to the use of fair value as a basis for the evaluation of biological assets.

### **3. Accounting in the agricultural sector from Romania according to the present accounting regulations**

According to the national regulations, as to the biological assets, they can be found both in tangible immobilisations category and in the current assets category.

The biological assets that are recognized as fixed assets do not have a special regime, being treated from the accounting point of view the same as the other tangible assets. (OMFP 1802/2014).



**Figure 4. - Classification of biological assets**

*Source: Own processing after OMFP 1802/2014*

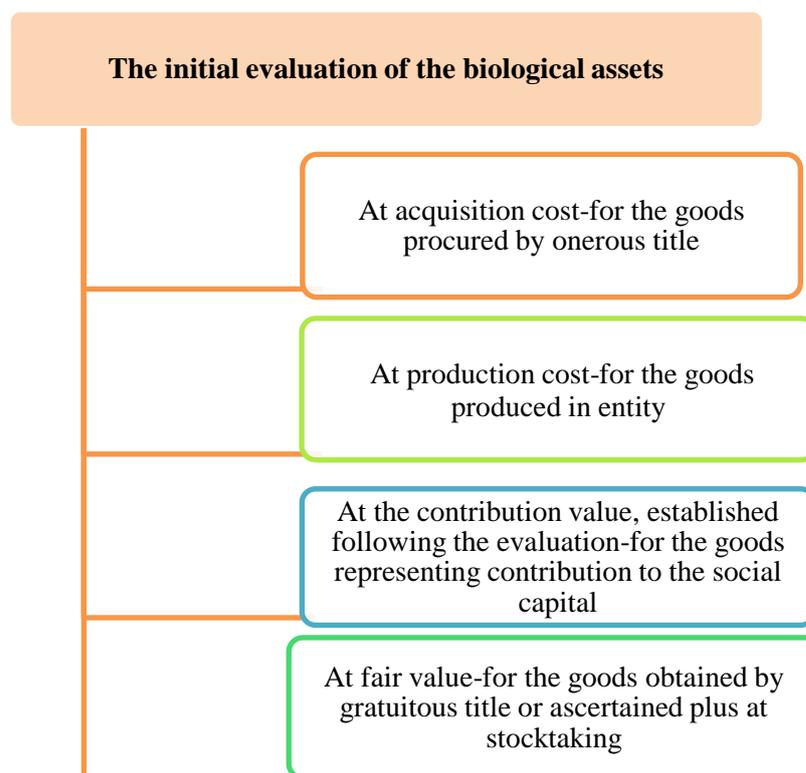
An entity recognizes a biological asset if and only if:

- the entity controls the asset as a result of the past events;
- it is probable that the future economic benefits associated to the asset come to the entity; and
- the fair value or the cost of the asset can be evaluated in a credible way.

Biological assets are often physically attached to the terrain on which they stand (for example, the trees from a forestry plantation). It is possible that for the biological assets which are attached to the terrain should not be a separate market, but there should exist an active market for the combined assets, that is for the biological assets, the vacant terrain and its improvements, considered as a whole. An entity can use information related to the combined assets in order to evaluate the fair value of the biological assets (OMFP 1802/2014).

For instance, the fair value of the vacant terrain and its improvements can be deduced from the fair value of the combined assets to establish the fair value of the biological assets.

The evaluation of the biological assets, according to the regulations in force is made at:



**Figure 5 The evaluation of the biological assets according to the present regulations**

*Source: author's own processing.(OMFP1802/2014)*

The fair value of the assets is generally determined by the recorded data on the market, through an evaluation usually made by authorised assessors, according to the law. In the case where there is no data on the market as to the fair value, because of the specialised nature of the assets and the low frequency of the transactions, the fair value can be determined by other methods usually by authorised assessors, according to the law. The revaluation of the productive biological assets is made according to the national regulations at the fair value.

The initial recognition of the biological assets is realized at acquisition cost or at production cost, where applicable, and the recognition in the balance sheet at cost minus the accumulated amortisation and the provisions for depreciation accumulated.

According to the present national regulations the revaluation of the biological assets is made at the fair value, in the case where the fair value cannot be determined, the value of the biological assets is the revalued value on the date of the last revaluation, from which are deducted the accumulated value adjustments.

We consider that the evaluation of the biological assets and agricultural production at the moment of their initial recognition is the real value at that time, but with the lapse of time the value reflected by the respective assets represent no more a trusty imagine of the value that it should. Therefore their revaluation is necessary in order to correct them and to reach a real value.

On the account of the information developed above we present nextly, same example in which are emphasized immobilisations revaluation and the reserve from reevaluation.

#### *Case Study*

FARM society is specialized in milk production and in its supply to different clients. Within the framework of the society, animals are evaluated at the fair value minus the costs generated by sale. The fair value of the animals is determined on the basis of the market prices of the animals of the same age, kind and genetic merit.

Milk is evaluated initially at the fair value minus the costs generated by sale at the moment of milking. The fair value is determined on the base of the market price from the respective area.

## Prospects of accounting development: the young researcher's view

The estimated price of the milk is 1,70 lei/liter. The costs generated by sale for milk rises at 850 lei. The quantity of milk obtained is of 8,5 liters/cow. The costs of processing the milk for sale, including pasteurisation and packing, are in value of 3.400 lei.

The situation regarding accounting values within the framework of XA society are:

Biological asset	Number	The fair value minus the costs generated by sale (lei)
Cows for milk	340	4.250.000
Heifers	34	204.000

At 31.12.N+1 production biological assets from the fixed assets category mature cows and heifers have been evaluated, values being as it follows:

Biological asset	Number	The fair value minus the costs generated by sale (lei)
Cows for milk	340	3.400.000
Heifers	34	212.500

The registration of milk obtained from own production at fair value minus the costs generated by sale:

- The estimated value of the milk sales = 340 cows x 8,5 liters/cow x 1,7 lei/liters = 4.913 lei.
- The fair value minus the costs generated by the milk sale = 4.913 lei – 850 lei = 4.063 lei.

	7572 Earnings from the fair value evaluation of the biological assets of the stocks' nature	4.063	Lei
347 Agricultural products	=		
The registration of the costs for processing milk for sale, pasteurisation and packing:			
6XX Expenses by their nature	=	4XX, 2XX Salaries, amortisations, contributions	3.400 Lei
Pasteurized milk manufacture at cost according to IAS 2 Stocks: Processing cost = 4.063 lei + 3.400 lei = 7.463 lei.			
345 Finished products ( pasteurized milk)	=	%	7.463 lei
		711 Incomes related to costs of the products stocks	3.400 lei
		347 Agricultural products	4.063 lei
At 31.12.N+1 it is registered the depreciation of the biological fixed assets mature cows in value of 850.000 lei (4.250.000 lei – 3.400.000 lei) and the growth in value of the heifers of 8.500 lei (212.500 lei – 204.000 lei):			
6571 Losses from the fair value evaluation of the productive biological assets	=	241 Productive biological assets	850.000 lei
241 Productive biological assets	=	7571 Earnings from the fair value evaluation of the productive biological assets	8.500 lei

**4. Therefore, as far as biological assets are concerned, there are differences between the accounting regulations from Romania and the international standards.**

**Table 1. Comparison between the national regulations OMFP 1802/2014 and International standards IAS 41**

Nr. crt	International standard IAS 41	National regulations	Differences	Discussions
1.	Initial evaluation of the biological assets is done: at the fair value, in the case where the fair value cannot be determined the evaluation is done at cost minus any amortisation and loss from depreciation.	The initial evaluation of the biological assets is done at: acquisition cost, production cost, contribution value, fair value.	Initial evaluation	The present national regulations place the stress on the way a biological asset or an agricultural product enters accounting, providing a wide range of evaluation methods. Whilst the IAS 41 standard does not place the stress on the way in which an asset enters accounting, it establishes clearly an evaluation method. We estimate that it is more advantageous to apply the IAS 41 standard in the evaluation of the biological assets. Firstly thanks to the evaluation method, without doing many calculations, and secondly due to the real image that it reflects.
2.	When there is a reference market for the biological assets the evaluation is done at the fair value.	National regulations point out that fair value evaluation of the assets is done when these are received with gratuitous title or in the case of revaluation. Evaluation is done at: acquisition or production cost.	Evaluation at the fair value	We notice that in both situations, in national regulations and in international standards evaluation at the fair value is efficient in reflecting a real image of the assets.  The thing that we have to take into consideration in national regulations is the way an asset enters in accounting, then evaluate it in terms of entering mode, the fair value is conditioned.
3.	<div style="text-align: center;">Evaluation or revaluation when there is no reference market.</div> Initial evaluation of the biological assets is done at cost minus any amortisation and any depreciation.	Revaluation of a biological asset is done at cost minus the accumulated value adjustments.	Evaluation/r evaluation	According to IAS 41 the initial evaluation when there is no reference market is done at cost minus any amortisation and any loss from depreciations. The accounting regulations specify that when there is no reference market for revaluation then it is made at cost minus the accumulated adjustments. We estimate that in both situations we apply the same method, but the evaluation moment is different. When there is no market to determine the fair value then the value at cost is a real value.

### **Conclusions**

Following the effectuated analysis, we can say that the purpose of our paper has been achieved, hence we can state that there are major differences when evaluating biological assets according to international standards and national regulations. These differences take shape by that the regulations from our country do not treat separately the productive biological assets and the agricultural production, but it merely defines them, and for their evaluation it is applied the same accounting treatment as that of tangible immobilisations and stocks, respectively, lacking particular provisions for this category of assets; in comparison with standards which clarify both the notion and the content of the biological assets as well as the evaluation method.

We can say that in applying both of the evaluation methods there are advantages and disadvantages, but we have to take into account the fact that accounting must reflect a real image. Thus the evaluation at the fair value is more reliable and more relevant and provides important information for the market, whilst for the evaluation according to national regulations there is need for a well-prepared accountant to reflect their value as close as possible to the real value. Following some studies effectuated it was ascertained that the evaluation at the historic cost needs more calculations, and that errors are more common in the evaluation of the biological assets compared with those who apply the fair value.

We say that a fair value estimated to the market conditions is a well-defined measure of the biological assets value, so that doubts should not be with regards to the relevance and credibility of this

value. National regulations apply the fair value only in certain conditions whilst IAS 41 standard is the basic rule of the productive biological assets evaluation.

At the same time we consider that it is simpler for the economic agents that activate in the field of agriculture to apply the IAS 41 international standards, because these standards are clearly delimited by the other assets and have an efficient evaluation method, which reflects reality compared with national regulations where are defined more evaluation methods of these assets but which are not clearly delimited and their value is not always according to the market.

In conclusion the adoption of IAS 41 international standards could lead to the growth of societies' credibility and to the reliability of the financial information.

### Bibliography

1. Aryanto Y.H., Theoretical Failure of IAS 41: Agriculture, 2011, pag.4 <http://ssrn.com/abstract=1808413>
2. Barry J. Epstein și Eva K. Jermakowick, IFRS 2007: Interpretarea și aplicarea Standardelor internaționale de Contabilitate și Raportare Financiară, BMT Publishing House, București, 2007, pag. 988
3. Bostan I., Socoliuc M., Implications of fiscality over accounting in agriculture Bulletin of University of Agricultural Sciences and Veterinary Medicine , Edited by AcademicPres, Cluj Napoca, Romania vol 65(2), Edited by AcademicPres, 2008.
4. Durac M. –"Recognition and evaluation of biological assets", Revista SMART, 2016, pp. 16-25, ISSN 2559-2513
5. Elad C., Fair value accounting in the agricultural sector: some implications for international accounting harmonization, European Accounting Review, 13(4):2004, pag 633
6. Feleagă L., Feleagă N., Răileanu V., Economie teoretică și aplicată Volumul XIX (2012), No. 2(567), pp. 11-19
7. Grosu V., Socoliuc M., New aspects of taxation system in agriculture, Buletin USAMV-CN, 65(1-2)/2008(-)Cluj Napoca, Romania, octombrie, 2008.
8. OMFP 1802/2014 pentru aprobarea Reglementărilor contabile privind situațiile financiare anuale individuale și situațiile financiare anuale consolidate, publicat în M.O. nr. 963/30.12.2014,
9. Standardele Internaționale de Raportare Financiară (IFRS) București, Editura CECCAR, 2015;
10. Toma C. – "Recunoașterea și evaluarea activelor biologice și produselor agricole", Analele Universității "Alexandru Ioan Cuza", din Iasi, 2004-2005, pp. 133-139