Comparative analysis of strategic and tactical decisions in agriculture under the IAS 41 Standard

Romeo Cătălin CREŢU1), Raluca Florentina CREŢU2)*, Alexandra MUSCĂNESCU1

1)Faculty Management, Economic Engineering in Agriculture and Rural Development, University of Agronomic Sciences and Veterinary Medicine Bucharest, 59 Mărăşti Blvd., Bucharest, Romania; creturomeocatalin@yahoo.com; 2)University of Economic Sciences, 6, Piaţa Romană, Bucharest, Romania; Corresponding author: cretu_raluca@yahoo.com

Abstract

The International Accounting Standard 41 (IAS 41) provides information about agricultural activity respectively biological assets and agricultural produce at harvest. In this paper we propose to achieve a brief comparative analysis of strategic and tactical decisions that must be considered when applying the IAS 41.

Keywords: IAS 41, agricultural produce, biological asset, harvest, strategic decisions, tactical decisions

INTRODUCTION

The provisions of the IAS 41 are however not directly reflected in Romanian regulations. With the increasing number of forest land transactions and foreign investment in farms it is expected that the recognition and evaluation of biological assets under the IAS 41 becomes a necessity (Feleaă et al, 2012).

The Order approving the Accounting Regulations in accordance with International Financial Reporting Standards applicable to companies whose securities are admitted to trading on a regulated market, introduces a new category of non current assets in Romanian accounting, the one of biological asset and a new class of current assets to inventories, the one of agricultural produce (Dumitru and Hagiu, 2013).

The standard applies to the elements shown in Figure 1:

MATERIALS AND METHODS

The term “agriculture” includes, according to the IAS 41 standard, “animal husbandry, forestry, annual or perennial plant growing, cultivation of orchards or other plantations, flower growing and aquaculture (including fish breeding)”. The objective of the IAS 41 standard is to prescribe the accounting treatment, financial statement presentation and disclosures that relate to agricultural activity, which is a specialized field, so it is not subject to another standard. The IAS 41 standard reproduces:

- a fair value model of accounting for agricultural produce;
- accounting treatment of government grants related to agriculture.

The standard applies to the elements shown in Figure 1:

Figure 1. The applicability area of the standard (Source: Greuning et al, 2011: 265)
A biological asset or agricultural produce must meet the requirements for assets in order to be recognized in the financial statements of the economic entity.

According to International Accounting Standards „an asset is a resource controlled by the enterprise as a result of past events and from which is expected to generate economic benefits for the economic entity”.

The asset will be recognized in the balance sheet “when it is probable the accomplishment of a future economic benefit by the economic entity and the asset has a cost or value that can be measured reliably” (Toma, 2005).

Under the IAS 41 standard, the agricultural activity represents the management of transformation and harvest of biological assets by an economic entity, for processing in agricultural produce (the product harvested from the biological assets of the economic entity) or in the biological assets (living animal or plant - Figure 2).

Agricultural produce can be of plant and animal nature (Figure 3). Managing biological transformation represents the agricultural activity. The biological transformation comprises the processes of growth, degeneration, production, and procreation that cause qualitative or quantitative changes in a biological asset. In the biological transformation there can be obtained the following results:

- changes of assets through:
  - growth (quantitative or improvement of the quality of an animal or plant);
  - degeneration (a decrease in the quantity or deterioration in quality of an animal or plant);
  - reproduction (production of additional live animals or plants);
  - production of agricultural products (such as latex, tea leaves, wool and milk).

The harvest represents the separation of agricultural products from a biological asset or the cessation of life processes of a biological asset.

For example, the biological transformation in a fish farm is actively managed, while ocean fishing can not be managed, therefore can not be considered as agricultural activity.

![Figure 2. Biological assets](Source: IAS 41, adaptation)

![Figure 3. Agricultural produce](Source: Greuning et al, 2011: 267)
Therefore, biological assets are living animals and plants. Biological assets are not identical with the harvest or agricultural produce. It is important to distinguish between these categories because the accounting treatment may differ for each of them.

RESULTS AND DISCUSSIONS

The IAS 41 standard also has some limitations. It does not apply to:
- land associated to the regarded agricultural activities
- intangible assets associated with agricultural activities.

The products obtained through processing after harvesting are presented in Figure 4:

The essence of the IAS 41 standard consists of the assessment of biological assets and agricultural produce harvested. These can be recognized by an economic entity only when:
- the asset is a result of previous activities;
- future economic benefits may be derived from the asset;
- the cost or value of the asset can be measured reliably.

The fair value represents that type of value at which an asset can be sold or bought on the market, in an objective transaction, between a decided seller and a determined buyer. If for that asset there is no active market to determine fair value, a number of criteria can be used (Figure 5):

Sector standards are for example represented by the value of an orchard, given by the number of trees or of hectares in this area, value of the flock

---

**Figure 4.** Products obtained after harvesting
(Source: IAS 41, adaptation)

**Figure 5.** Criteria for determining fair value
(Source: Greuning et al, 2011: 269, adaptation)
of sheep or herd of cattle given by the number of heads and kilos of meat, etc.

For situations where fair value can be determined on the market, there can be used the updated value of net cash flows of the expected biological asset after the updated market rates. The IAS 41 standard suggests how to assess such situations.

Usually, the fair value for an asset or agricultural product is determined on the market (active market). Fair value is based on the location and condition of the asset and reflects the market price minus transportation costs and other costs necessary for that biological asset or agricultural produce to reach the market.

The evaluation of the biological asset is done during the initial recognition and at each subsequent reporting date at fair value minus estimated point-of-sale costs. The gain or loss arising from the initial recognition of a biological asset will be included. The agricultural produce harvested will be measured at fair value minus costs at harvest point-of-sale.

When applying the IAS 41 standard the following strategic and tactical decision should be considered:

Strategic decisions:
1. determining whether the fair value of biological assets is measured reliably;

Tactical decisions taken in this regard relate to the implementation of a process for determining the fair value of each major class of biological assets:
- based on required market prices;
- with reference to prices determined on the market;
- updated value of future net cash flows of the asset;
- for cost in situations where market prices can not be determined reliably.

Problems that arise in the implementation of these strategic and tactical decisions are related to determining fair value of biological assets in the following situations:
- no market prices for assets in their current state;
- fair value of biological assets can not be determined reliably;
- when fair value is determined using updated cash flows, the management of the economic entity needs to determine the appropriate rate corresponding to the market.

2. the moment of harvest for biological assets must be determined.

The tactical decisions taken in this regard relate to:
- the need to distinguish between production, biological assets and products resulting after harvest through processing;
- for each major class of biological assets, an economic entity must document on the proceses related to processing after harvesting and on biological transformation.

Initial recognition of biological assets purchased with the findings of loss in the case of economic entity specialized in fish farming. The purchase is of 500 kg. of rainbow trout spawn weighting 10-15 g to populate a newly established farm at a price of 40 lei / kg. on June 1, 2012, the transport being provided by the supplier. If the unit would sell the spawn in its current state, they would bear the cost of transport of 1,000 mu and other estimated point of sale costs of 1% of the market price of the biological assets. Fair value minus estimated point of sale costs of biological assets is of 8,900 mu, determined as follows (Table 1):

<table>
<thead>
<tr>
<th>Tab 1. Determination of fair value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>market price</strong></td>
</tr>
<tr>
<td>transportation costs for sale</td>
</tr>
<tr>
<td><strong>FAIR VALUE</strong></td>
</tr>
<tr>
<td>estimated point of sale costs</td>
</tr>
<tr>
<td><strong>FAIR VALUE minus estimated point</strong></td>
</tr>
<tr>
<td>of sale costs</td>
</tr>
<tr>
<td>loss of initial recognition of biological assets</td>
</tr>
</tbody>
</table>

Source: own calculations
From the data analysis there can be seen the manner of determining fair value of 9,000 mu for the 250 kg. of rainbow trout spawn and deducting the estimated point of sale costs of 100 lei and losses from the initial recognition of biological assets of 1,100 lei.

The purpose of the IAS 41 standard is to prescribe the accounting treatment, financial statement presentation and disclosure for biological assets and agricultural produce at the point of collection to the extent that they relate to agricultural activities.

CONCLUSION

The main idea of the IAS 41 standard – Agriculture, is the evaluation of biological assets and agricultural produce on a fair value basis. This fair value is equivalent to the free market price, where a decided seller meets a determined buyer.

In applying the IAS 41 standard, there must be taken into account strategic and tactical decisions, that are formed all around this fair value.

The IAS 41 is an attempt to increase the comparability of financial statements of agriculture companies. Its implementation in various countries led to a radical change in accounting practices of large agricultural companies, by shifting from historical cost evaluation to assessing the fair value. The main reported drawbacks concern (Svensson et al., 2008, pp. 56-57): the evaluation cost of biological assets at fair value exceeds the earnings obtained by this evaluation; the fair value assessment described by the IAS 41 increases earnings volatility rate, choosing an update rate for biological assets evaluation involves a subjective judgment. However, the IAS 41 remains the first step in a consistent transition to fair value assessment in the agricultural sector.

REFERENCES

3. Ordinance 1286 of 01.10.2012.