ASPECTS OF THE STOCK VALUATION AND ACCOUNTING IN AGRICULTURAL UNITS IN ROMANIA

Mariana BĂNUȚĂ¹, Marilena–Ionica RĂDULICĂ²

¹ Faculty of Economics, University of Piteşti, <u>mari.banuta@yahoo.com</u>
² Faculty of Economics, University of Piteşti, <u>radulica.marilena@yahoo.com</u>

Abstract: This paper approaches a current and common and topical problem of the business entities operating in agriculture, the stock valuation and accounting problem. Thus, gradually the article starts from the delimitation of the categories of inventories in agriculture, continues with the reasons for the need to valuate them and shows the stock valuation methods in the current accounting and in other specific situations.

Keywords: valuation; inventories; agriculture; accounting; IAS; production cost.

JEL Classification Codes: M40, M41

1. INTRODUCTION

As shown in the specialised studies³, Romania is one of the countries with a strong agrarian character, among the European Union countries. This does not mean a corresponding contribution of the agriculture to the GDP formation, nor, a high degree of efficiency, in terms of productivity level equally resulted from comparing the sector with other sectors of our economy, and especially, with yields at the various crops and animal species recorded in the other EU countries.

In agricultural companies, inventories are the current assets base upon which large part of the accounting activity is focused, especially in terms of determining the production cost that presents calculation peculiarities, depending on the specificity of the business. Besides the current accounting valuation, specific problems occur in terms of determining the stock value and in the case of the overall valuation of the company.

2. TYPES OF AGRICULTURAL ENTITIES IN ROMANIA

Agriculture is "the branch of the material production having as an object crops and livestock in order to obtain food products and certain raw materials; all the works and methods used for this purpose." The volume, structure and manifestation of these resources in the process of their use differentiate agriculture from other branches of the economy.

The agricultural activity is according to IAS 41 "Agriculture", "the transformation of biological assets (living plants and animals) into agricultural produce (harvested product of the entity's biological assets".

² MSc student

⁵ Definition according to the International Financial Reporting Standards

¹ PhD. Lecturer

³ Constantin Anghelache - Romania 2013. The Economic Status under the Burden of the Crists Effects, Economic Publishing House, Bucharest, 2013, p.163

⁴ National Continuous Professional Development Institute – Guide for the application of the national accounting in agriculture, CECCAR Publishing House, Bucharest, 2012, pp. 9-29.

Companies carrying out activities in order to obtain agricultural and food produce are currently known as units, farms or agricultural entities. The concept of agricultural entity has a broad meaning, designating any entity in which agricultural produce is obtained.

"The agricultural unit is the place in which the farmer combines production factors in order to obtain agricultural produce. The farmer can use the land as owner, lessee, administrator or entrepreneur."

The diversity of the agricultural units is determined by a multitude of characteristics, such as: the types of activities performed, legal organization form, form of property, economic form of organization, size, production factors used.

Table no.1 Main forms of economic organization in agriculture

Small farms	"The small farm is the primary production and consumption form, which partially or fully provides the family with the required food." It is characterised by the cultivation of small areas, up to 10 hectares, with poor technical equipment, and lack of operating capital; it is agriculture performed for subsistence, without an important contribution to the market development.			
Family farms	"The farm is the primary basic unit of agriculture, a form of organization that provides political stability and economic motivation for farmers." These farms are based on the private property of the land, leasing or renting it, have a great expansion in all developed countries, can be found in a lower percentage in the developing countries and are being established in countries in transition.			
Cooperatives and associations of cooperatives	There are worldwide various forms o cooperation known in agriculture, from simple agreements to business associations. The characteristic of the agricultural cooperation in the countries with a market economy is the fact that the production of the raw material is made at the level of the individual farm, the purpose of the cooperatives being the upstream and downstream activities of the agricultural production.			
Agri-food companies	Are free economic companies, established for profit. They are less specialised in agriculture (livestock, intensive fruit and vegetable production), and mainly integrate the agricultural production to processing and selling (vertical integration).			

(Source: table made by the authors based on the specialized literature)

Another aspect of agricultural units, besides the economic for of organization, is the legal form of organization.

Farm legal status can be divided into two main categories⁷:

I. Without legal personality:

o Individual farm – the most frequent type of farm in the rural environment which is usually composed of the family members or family associations that use common agricultural areas and/or breed animals;

Self employed persons, individual companies, family company.

II. With legal personality:

o Autonomous companies – business entity, a legal entity whose property consists of assets fully or mostly belonging the public domain of national interests/ local or the state private property, performing agricultural activities among others;

⁶ National Continuous Professional Development Institute – Guide for the application of the national accounting in agriculture, CECCAR Publishing House, Bucharest, 2012, p.28.

http://www.insse.ro/cms/ro/content/ancheta-structurala-agricultura

- o Agricultural company/association this type has legal personality, but is not commercial in nature;
- o Private owned company has legal personality, manages private/public capital and its core or secondary business is represented by agricultural activities.
 - ✓ Research institute/ station, school with agricultural profile (high school);
 - ✓ town hall;
 - ✓ Other public institutions;
- o Cooperative unit farm with legal personality established based on Law no. 566/2004, property, performing agricultural activities among others;
- Other types (foundation, religious establishment, school, etc.) farms with legal personality such as monasteries, churches, convents, schools with non-agricultural profile or other non-governmental organizations only if they carry out agricultural activities among others.

3. DELIMITATIONS AND STRUCTURES CONCERNING INVENTORIES IN THE AGRICULTURAL FIELD

In relation to the typology of inventories, depending on the type of activity carried out by the company, there can be inventories of raw materials, production in progress and finished products (for industrial entities) and inventories of goods (for business entities). According to the international accounting standard IAS 2 "Inventories", inventories are assets:

- ➤ held for sale in the ordinary course of business;
- in the process of production for such sale;
- > in the form of materials or supplies to be consumed in the production process or in the
- rendering of services.⁸

International Financial Reporting Standards (IFRS) separately approach the accounting of biological assets related to the agricultural activity and to the agricultural production when nit is cropped (described in IAS 41 – Agriculture).

According to the provisions of Order 3055/2009 approving the accounting regulations compliant to the European Directives (as supplemented and updated), inventories include: goods, raw materials, materials such as inventory objects, packaging, production in progress, livestock and poultry, and finished products. The inventory category also includes goods held in custody, for processing or consignment at third parties, which are recorded separately in the accounting records on categories of inventories.

The Activity companies in the agriculture sector requires the use of stocks specific to this branch: seed and planting material, feed, animals and poultry, etc. These are highlighted by the following accounts⁹: 3025 "Seeds and planting materials ", 3026 "Feed", 331 "Produce in progress", 341 "Semi-finished products", 345 "Finished products", 351 "Materials and materials held by third parties", 361 "Animals and poultry", 356 "Animals at third parties".

4. THE NEED TO VALUATE THE INVENTORIES OF THE AGRICULTURAL COMPANIES

The need for this assessment is based on the reality that the input value based on the cost price has a historical value only, any subsequent significant change in the real value of goods distorting decisions.

Given that in the life of an entity there are several moments when the valuation is necessary, we could say the same thing about the need to valuate inventories.

⁸ Definition provided according to International Accounting Standard IAS 2 Inventories /2013

⁹ According to the accounting regulations passed through OMFP 3055/2009 (as amended and suplemented)

In my opinion, the inventory valuation need emerges in the following moments:

-The accounting valuation in agricultural companies:

- a. when entered in the assets or when first recognised in the accounting records:
 - contributed to the capital of the company assessed at the business value set by the
 - obtained freely or by donation valuated at their fair value.

b. when inventoried – in order to determine the real (inventory) value, which is determined depending on the condition of the goods, its usefulness for the entity and its market price;

-On the occasion of the overall assessment of agricultural companies, as they are part of the company assets. The need to valuate the company occurs in agricultural company selling and purchase transactions, in mergers in other to set the net merger contribution, in liquidations of the agricultural companies, etc.

5. INVENTORY VALUATION IN THE ACCOUNTING OF THE AGRICULTURAL **COMPANIES**

The share of the current assets in the balance-sheet assets of agricultural companies is significant in many cases, which is why their correct valuation is important. According to the fundamental idea of company valuation, and also in the valuation of the current assets, the aim is to assess their most realistic (market) value.

In relation to the nature of the assets, the direction of the movements occurred in the mass of the assets and the time when the evaluation is made, the following rules and valuation forms can be noted: valuated when entered into the accounting records, valuated when removed from the accounting records, valuation at inventory, and valuation at the balance record. I will present the valuation of the inventories of the agricultural entities according to the accounting referentials applicable to trading companies in Romania. 10

Table no. 2 Valuation of the inventories of the agricultural companies in the accounting records

111	o. 2 valuation of the inventories of the agricultural companies in the accounting records
	Valuation moments
	Valuation when entered into the accounting records
	The initial valuation of the inventories of the agricultural entities is made at cost. This
	cost can be represented by:
	- The purchase cost: for those bought from various suppliers (the purchase cost is equal to
	the purchase cost, customs duties, unrecoverable fees and all other expenses directly related to
	the commissioning of inventories, expenses that cannot be recovered from third parties);
	- The production cost: or those from own production, including the livestock weight gain
	increment (the production cost includes the purchase cost of raw materials and supplies, other
	direct production costs, as well as the share of the indirect production costs);

¹⁰ Note: the inventory valuation rules according to Order no. 2239/2011 of the Minister of Public Finance on the simplified accounting rules coincide to those presented in Order no. 3055/2009 of the Minister of Public Finance approving the accounting regulations compliant to the European directives

- The value of the contribution to the equity capital of the agricultural entity, inventories contributed in the agricultural entities are assessed at the contribution value determined following the valuation process, performed according to the legislation in force;
- The inventories of agricultural companies received freely are assessed at fair value. The fair value is the amount for which the asset could be willingly exchanged between parties informed in a transaction with the objectively determined price.

Valuation when exiting the entity

When exiting the entity or being given for consumption, inventories are valuated and deducted from the accounting records at their original value or their book value.

When inventories and fungible assets are removed from the accounting records, they are assessed and recorded by applying the following methods:

The first-in, first-out method (FIFO) - the goods removed from the accounting records are assessed at the purchase or production cost of the first batch. As the batch is exhausted, the goods removed from the accounting records are assessed at the purchase or production cost of the next batch, in chronological order.

The weighted average cost (WAC) method – consists o calculating the cost of each item based on the weighted average of the costs of similar items that are in stock at the beginning of the period and of the costs of similar elements made or purchased throughout the period.

The last-in, first-out (LIFO) method – goods removed from accounting are assessed at the purchase or production cost of the last batch. When the batch is exhausted, goods removed from accounting are assessed at the purchase or production cost of the previous batch, in chronological order.

Valuation at stocktaking and presentation of the items in the balance sheet

Implies assessing the inventory value of the balance items when they are inventoried. It is represented by their current or utility value, being determined according to the utility of the goods in the economy of the company and the market price.

Assets such as stocks are assessed on the balance sheet at book value, less adjustments for the impairment found. Adjustments for impairment are established including for the inactive inventory. If the boodk value of the inventories is higher than the inventory value, the value of the inventories is reduced to the net realizable value by setting an adjustment for depreciation.

The book value is the value at which the asset is recorded in the balance sheet and is determined as difference between the input value, on the one hand and adjustments for impairment, on the other hand.

The **net realisable value of the** inventories is the assessed selling price that could be obtained throughout the normal course of the business minus the costs assessed for completing the goods, where appropriate, and the assessed costs of selling it.¹¹

Assets such as stocks should not be reflected in the balance sheet at higher value than the value that can be obtained by their use or sale.

¹¹ National Continuous Professional Development Institute – Guide for the application of the national accounting in agriculture, CECCAR Publishing House, Bucharest, 2012, p.51

	Valuation when recorded in the assets
IFRS	International Accounting Standard IAS 2 "Inventories" presents rules for the valuation of similar inventories to the ones included in the accounting regulations compliant with European directives (shown above). The differences occurred in relation to the fungible inventory valuation methods when they are removed from fungible inventories, the only agreed methods being FIFO and WAC.
Valuation according to Order no. 1286/2012 of the Minister of Public Finance on the International Financial Reporting Standards	The differences related to the inventory valuation compared to the accounting regulations in Directive IV of the EEC are present in IFRS. Thus, IAS 41 "Agriculture" mention the fact that a biological asset should be valuated at the initial recognition and at the end of each financial year at its fair value minus selling costs, except when the fair value cannot be reliably determined. The content of the same standard brings the following additional clarifications concerning the determination of the fair value: - If an entity has access to different active markets, the entity uses the most relevant one (the market expected to be used) - If an active market does not exist, an entity uses one or more of the following, when available, in determining fair value: the most recent market transaction price, provided that there has not been a significant change in a) economic circumstances between the date of that transaction and the end of the reporting period b) market prices for similar assets with adjustment to reflect differences; c) sector benchmarks (for example price/kg)

6. INVENTORY VALUATION METHODS IN THE OVERALL COMPANY VALUATION PROCESS

Out of the three known approaches for the determination of the value of the companies (the market approach, the cost approach, and the income approach) I am mentioning that the inventory valuation occurs only when the asset or cost approach methods are applied. Under the asset approach method of valuation, inventory valuation is required to determine the value at which inventories will be recorded in the assets correlated for the determination of the net asset value adjusted or the net liquidation asset respectively (depending on the assumption of the continuation or cessation of the activity). I will present aspects pertaining to inventory valuation in the overall company valuation process according to the specialized literature. ¹²

For the company assessor, it is very important to know which inventory valuation method is used by the company. If the valuation in the accounting records of the company is made at cost, it is also necessary for him to know the specific method used for quantifying such costs.

If the cost is no longer an actual measure of the market value, in the accounting it is allowed to record the lower value between cost and marked value.

There are three main methods for the inventory valuation in such circumstances:

- The "item-by-item valuation method" (by which the cost and the market value are compared on each item in the inventory, the individual items being assessed at the lowest level);

¹² Sorin V. Stan – "Company Valuation, reviewed and supplemented", Iroval Publishing House, Bucharest, 2013, p. 252.

- The main category method (by which the total cost and the total market value of each category of article are compared, each item being valuated in the accounting records at the lowest value between the two compared levels);
- The total cost method (by which the whole inventory is valuated both at cost and at market value, and the lowest value is used to determine the recorded cost).

The raw materials are valuated at the price of the day by using the market price. For the finished products, which constitute the object of contracts or firm orders, the valuation is made at the selling price mentioned therein and for the finished products to be sold, at full cost.

The unfinished production is valuated based on the prices of the finished products, adjusted for the technical finishing level, determined on the occasion of inventorying the production in progress. Since the operation is complex and needs time, the remaining the production in progress in the balance sheet is adjusted for the expenses related to the ceased orders, which are to be sold separately. The other items are taken into account with the value in the balance sheet, adjusted with the amounts representing the equivalent value of the damaged goods.

7. IDENTIFYING AND VALUATING INVENTORIES SPECIFIC TO THE AGRICULTURAL BUSINESS OF THE COMPANY S.C. IRIS TITULESCU S.A.

I will present the stages performed to obtain the cereals (leguminous bean and haulm plants) in the above/mentioned company, mentioning the types of inventories spent or obtained and their accounting valuation:

Table no. 3 Types of operations, inventories used and inventory valuation in an agricultural company

Stages performed in the agricultural entity from the land preparation to harvesting	Inventories used/transformed and their accounting records	Inventory valuation
I. Land		
preparation		
1.1. Ploughing 1.2. Disking 1.3. Scarifying	Throughout the financial year various costs are recorded in relation to the land preparation and other operating expenses which are equalized on a regular basis at the level of the profit and loss account in correspondence with the credit of account 711 "Incomes related to stocks' costs" (331 "Products in progress" = 711 "Incomes related to stocks' costs"). At the beginning of a new accounting period the unfinished production is resumed in order to continue, by means of the reverse accounting formula (711 "Incomes related to stocks' costs"=331"Products in progress")	The valuation of the agricultural production in progress is made at cost (depending on the operating expense level recorded by the end of each year).
1.4. Seeding	The seeds are used* for planting 6025 "Costs of seeds and sapling" = 3025 "Seeds and sapling"	When seeds and the sapling are removed from the assets, being fungible stocks, they are valuated using the FIFO method
1.5. Herbicide	The land is treated with herbicide according to the standards, and the removal of the herbicide from the accounting records is a accounted for	When the herbicide is removed from the assets it is valuated using the

	in 6028 "Costs of other consumables" = 3028 "Other consumables"	specific identification method.
II. Crop maintenance	Other consumations	method.
2.1.field hoeing 2.2. mechanical hoeing 1 2.3.mechanical hoeing 2 + fertilising	Throughout the accounting years various land preparation expenses and other operational costs are recorded and equalized on a regular basis in the income and expense account in relation to the credit of account 711 "Incomes related to stocks' costs" (331 "Products in progress" = 711 "Incomes related to stocks' costs"). At the beginning of a new accounting period the unfinished production is resumed in order to continue, by means of the reverse accounting formula (711 "Incomes related to stocks' costs" = 331 "Products in progress")	The valuation of the agricultural production in progress is made at the production cost (depending on the operating expense level recorded by the end of each year).
Cropping	Besides the other operating expenses related to the land maintenance and carrying out the agricultural work, the direct/indirect expenses related to the cropping stage that will be included in the production cost related to the production in progress will also be taken into account (331 "Products in progress" = 711, Incomes related to stocks' costs")	The valuation of the agricultural production in progress is made at the production cost (depending on the operating expense level recorded by the end of each year).
Storage	Following the cropping the obtained cereals are recorded, accounted for by means of account 345 "Finished products" opened on analytical accounts corresponding to each type of cereals (345 "Finished products" = 711 "Incomes related to stocks' costs").	The valuation is made at the production cost* by also taking into account the unfinished production cost recorded in the previous accounting years, as well as the direct and indirect production expenses of the last accounting year.
Produce selling	The products can be sold as follows: i. Selling (discharge of administration of the produce 711 "Incomes related to stocks' costs" = 345 "Finished products"") ii. Transferring produce to the landowners who leased the land (462 "Sundry creditors" = 345 "Finished products"") iii. Part is used for seeding for the next year (3025 "Seeds and sapling"=345 "Finished products").	The valuation at removal from assets is made depending on the production cost** of the cereals removed from the accounts.

^{*} the seeds used for seeding come either from the previous year crop (specific accounting record: 3025 "Seeds and sapling" = 345 "Finished products"). The removal from the product category is made depending on the production cost previously recorded when obtaining the seed crop), or are purchased from internal suppliers (3025 "Seeds and sapling material" = 401 "Suppliers"), the valuation when they are entered in the accounting records being made at purchase cost.

^{**} Agricultural companies and agricultural associations (legal entities) calculate the costs of the agricultural production obtained in the course of an accounting year. As shown in

specialised materials¹³, a fact also proved in practice, a main problem related to the assessment of the production cost is related to the time when the calculation can be made. Determining the final cost of the agricultural production at short time periods is difficult due to the inconsistency between the period when resources are spent and the time when the production is obtained. The inconsistency between the period when the production expenses are incurred and the period when the production is obtained is differentiated depending on the profile of the branch, as well as of the activities performed in these agricultural branches. This situation is quite noticeable in the vegetal production branch, which branch also influences the livestock production by the fact that it provides the feed required to raise and maintain animals. Another aspect that influences the calculation of the unit cost of the agricultural production is obtaining from certain crops and categories of animals, both the main produce, as well as the secondary ones. Obtaining from certain crops and categories of animals two or several main produce determines the creation of a system of criteria used to specify the main produce and the produce that are assimilated, from the point of view of the calculation, as secondary produce. This delimitation into main produce (with and without calculation) and secondary produce requires, on the one hand, choosing the calculation procedure, and on the other hand, the valuation of the main produce assimilated to the secondary production. The calculation of the cost per unit is based on the data related to the production expenses and the production obtained, recorded and grouped in the operational records of each production farm. The cost calculation methods vary depending on the agricultural activity, for example in the case of the company analysed, the stage method is applied. "The problems of the change in the economic environment and the companies' need to adapt determined the reorientation of the managerial accounting. At the same time, given that the techniques and practices used by traditional managerial accounting, applied in new production conditions have not yielded the expected results, it is increasingly evident that the managerial accounting system needs to improve, 14.

In the practice of many Romanian companies (including the agricultural ones where I carried out the practical research) we can find the case when, at stocktaking, a stage prior to the financial statements, book values equal to the inventory (actual) values are recorded in the inventory record. I checked based on the management accounting data and the statistical information¹⁵ the comparability of the costs and the prices of three categories of cereals (wheat, corn and sunflower).

Table no. 4 Price-cost comparability for cereals

RON/kg

Calendar	Wheat		. Wheat Corn	Sunflower		
year	Cost	Price	Cost	Price	Cost	Price
2005	0.2357	0.37	0.2476	0.37	0.5828	0.76
2006	0.3237	0.35	0.2850	0.39	0.4817	0.73
2007	0.4310	0.74	0.3052	0.78	0.6295	0.88
2008	0.3924	0.68	0.3567	1.01	0.8766	1.19
2009	0.4173	0.48	0.2510	0.67	0.5340	0.88
2010	0.5577	0.59	0.4400	0.71	0.8690	1.22
2011	0.5201	0.89	0.3040	1.01	0.6880	1.64
2012	0.6817	0.93	0.7210	1.05	1.3920	1.88

Băviță Ilie, Dumitru Mădălina, Pitulice Ileana Cosmina, Calu Daniela Artemisa, Popa Adriana Florina – "Accounting in Agriculture. Theoretical and Practical Approaches", Contaplus Publishing House, Bucharest, 2008, pp. 72-74

¹⁴ Constanța Iacob, Marian Țaicu "Managerial Accounting and Environmental Performance of Bakery Companies", Scientific Bulletin – Economic Sciences, Volume 11/ Issue 1 Pitesti 2012, p.19

113

12

¹⁵The prices were taken from the website www. insse.ro//tempo and the information related to cost was taken from SC Iris Titulescu SA

8. CONCLUSIONS

Following the analysis of the data in the table, we can conclude that the market prices (which can be assimilated to the net realisable value or the real value) are higher than the cost in the accounting records, in the case of the specific inventories of this agricultural company and consequently according to the principle of prudence no value adjustments for temporary depreciation should be recorded. However, in my opinion the situation can be generalised in all agricultural companies, and the practice of entering into the inventory record of the equality between the book values and the real ones is risky because in the case of real values lower than book values, failure to enter value adjustments for the depreciation of the inventories leads to the distortion of the fair image of the assets.

We can say that agriculture is a fundamental branch of the national economy, and the entities operating in this field present specific categories of inventories, whose assessment needs special attention especially in relation to the assessment and recording of the production cost, the other cost categories being determined easier. Moreover, the fact that there are similar goods currently traded in the market facilitates valuation at stocktaking or in other moments that require real values.

REFERENCES

- 1. Anghelache Constantin "Romania 2013. The Economic Status under the Burden of the Crisis Effects", Economic Publishing House, Bucharest, 2013
- 2. Băviță Ilie, Dumitru Mădălina, Pitulice Ileana Cosmina, Calu Daniela Artemisa, Popa Adriana Florina "Accounting in Agriculture. Theoretical and Practical Approaches", Contaplus Publishing House, Bucharest, 2008
- 3. Bengescu Marcela "Taxation and Accounting", Sitech Publishing House, Craiova, 2013
- 4. Constanța Iacob, Marian Țaicu "Managerial Accounting and Environmental Performance of Bakery Companies", Scientific Bulletin Economic Sciences, Volume 11/ Issue 1, Pitesti, 2012
- 5. http://www.insse.ro
- 6. National Continuous Professional Development Institute Guide for the application of the national accounting in agriculture, CECCAR Publishing House, Bucharest,
- 7. *OMFP 3055/2009* on the accounting regulations compliant with the European directives (as amended and supplemented)
- 8. *OMPF 1286/2012* on the International Fionancial Reporting Standards (IFRS)
- 9. OMFP 2239/2011 on the somplified accounting regulations
- 10. Stan Sorin V "Company Valuation, 2nd Edition, reviewed and supplemented", Iroval Publishing House, Bucharest
- 11. International Accounting Standards IAS 2 "Inventories" and IAS 41 "Agriculture"