THE 19TH EDITION OF THE INTERNATIONAL CONFERENCE
EUROPEAN INTEGRATION
REALITIES AND PERSPECTIVES

Study on the Management Accounting Specifics of Immobilized Biological Assets Under Construction

Igor Balan[1]

Abstract: The purpose of the article is to analyze and provide in-depth information on the specific managerial accounting aspects related to managing immobilized biological assets under construction. In this context, through a detailed analysis of the regulatory framework governing this area, the issues persisting within this distinct subsector, the practices of developed countries within the European Union, and other specific peculiarities of this sector, the author aims to succinctly outline the achievements and existing problems in the field. Additionally, the author seeks to provide a better understanding of how such assets are managed within business processes in agricultural entities. By highlighting key aspects, advanced expertise, and best practices in this field, the paper aims to provide possible directions for improving the situation for accounting professionals and managers involved in managing immobilized biological assets under construction.

Keywords: Immobilized biological assets; subsidies; perennial plantations; costs; nursery; vineyard; bearing; perennial plantation

JEL Classification: M40; Q12; Q19

1. Introduction

As known, in domestic agricultural enterprises, the most important immobilized biological assets in progress, both by weight or absolute value, and by their long-term socio-economic consequences, are represented by the costs related to the establishment and care of perennial plantations (vineyards, orchards, rootstock areas, grafting areas, fruit tree rootstock areas, mulberry areas, and fruit bushes) until their maturity (bearing fruit). Additionally, despite the fact that the production of planting material and the establishment of perennial plantations are strictly regulated nationally through a series of legal acts, and the costs incurred by households in establishing these biological assets are partially recovered through financial support from the agricultural producer subsidy fund, there are still numerous problems and uncertainties that significantly complicate the achievement of expected objectives and, therefore, deserve to be succinctly examined further. Consequently, we can conclude that the examination of these problems and uncertainties arising within the modern entrepreneurial domain serves not only general management functions to ensure and advise managers in making management decisions based on profit

[1] Associate Professor, PhD, Free International University of Moldova, Department of Accounting, Finance and Banking, 52 Vlaicu Parcalab Street, MD-2012, Chisinau, Republic of Moldova, Phone: +373 69 308085, Fax: +373 22 220028, E-mail: ibalan@ulim.md; luibalan@mail.ru.

criteria to achieve their objectives but also to strengthen the effectiveness of their activity results by implementing recommendations offered for this purpose.

2. Related work

The costs incurred by economic entities in the agricultural sector in establishing biological assets are usually partially recovered from a separate subsidy fund in accordance with the provisions of the Regulation on the allocation of funds from the agricultural producer subsidy fund approved each year by the executive branch and exclusively administered by an institution subordinate to the Ministry of Agriculture and Food Industry - the Intervention and Payment Agency for Agriculture (AIPA). It is also necessary to mention that, in the practical activity of domestic agricultural enterprises, there are various circumstances of different nature that cause uncertainties or inappropriate interpretation, which directly impact the accounting treatment regarding management accounting of certain biological assets immobilized in progress under distinct conditions.

According to the data from the latest general agricultural census conducted in the Republic of Moldova (excluding the territory on the left bank of the Dniester River and the city of Bender), there are approximately 200,000 hectares of perennial plantations, out of which approximately 140,000 hectares are vineyards. It is worth mentioning that the harvested vineyard area globally, according to FAOSTAT data, is estimated at around seven million hectares, with a slight decrease in recent years. This decrease in the area has been caused by vineyard clearances in Europe, which have not been offset by new plantings elsewhere in the world. However, the European Union (EU) holds a leading position in the global wine market, covering 46% of harvested areas and 32% of grape production. Currently, the Republic of Moldova ranks 13th in the world in terms of harvested vineyard area. Therefore, given the significant share of vineyards in the total area of perennial plantations, exceeding 70%, the author will further focus on the achievements and existing problems in viticulture, elucidating, where appropriate, advanced experiences and possible directions for improving the situation.

3. Concept and Terms

Any accounting system, conceived as a component of the managerial structure of an entity, must be organized on principles of efficiency, which in turn entails continuous modernization and the implementation of new policies to achieve planned strategies, minimize entrepreneurial risks, and continuously improve operational results. At the same time, the lack of methodological tools or prominent uncertainties in various directions generate systemic problems, which significantly influence the results of the enterprise's activities. In this context, the author, as a result of a monographic study and in-depth consultation of specialized literature and daily practice evidence of domestic subjects in the entrepreneurial field engaged in agricultural activities, has attempted to develop methodological support in this area by formulating plausible directions for improvement of the current state. These, in the author's opinion, will contribute to the refinement of practices and accounting treatments applied in domestic production enterprises that utilize such immobilized biological assets in progress.

4. Solution Approach

The analysis of the current state of management accounting for immobilized biological assets in progress, as well as their specific characteristics, allows us to formulate the main directions for

improving this field. These include: making clarifications and modifications aimed at addressing the shortcomings identified in the regulatory documents regarding the accounting treatment of vineyard plantations in the planting, exploitation, and clearing processes; identifying and specifying the costs associated with the establishment and care of perennial plantations until they start bearing fruit; as well as determining the method and specifics of accounting for trellising.

It's well known that the global grape production is unstable and varies from year to year. Essentially, two main factors contribute to this: firstly, worsening climatic conditions (previously, frost would affect vineyards once every 10 years, but nowadays, this calamity is more frequent); secondly, the unsatisfactory state of a significant portion of existing plantations. However, while the first factor is objective and therefore cannot be overcome, the second factor is exclusively explained by the deteriorated physical and moral condition of the exploited vineyards, slow renewal times, and the establishment of new plantations. This latter factor is conditioned by several circumstances, among which specialists highlight the following: 1) One of the main circumstances is the excessive fragmentation of vineyard plantations, which are exploited by approximately 52 thousand entrepreneurs. This, of course, hinders the implementation of advanced technologies and progressive forms of labor organization, complicates the obtaining of advantageous bank loans, and excludes the possibility of concluding long-term contracts between grape growers and winemakers for the delivery of significant batches of quality products, and so forth; 2) Another significant circumstance is the permanent reduction in the number of households specialized in vine nursery and the decrease in the areas of mother plantations for grafts and rootstocks; 3) The alarming deterioration of all indicators characterizing domestic planting material (quantity, quality, price, etc.) is a logical consequence of the worsening nursery base; 4) The frequent modification of current legislation, the lack of coherence between adjacent legal acts, and especially the neglect of a centralized state control role in the field of vine nurseries; 5) he unjustified preference for the vertical management method of vine shoot growth based on installing trellises and tying the cordons to rows of taut wire; 6) The permanent increase in prices for industrial goods and tariffs for services provided by third parties or work executed by them inevitably leads to the rise in costs for establishing new vineyards; 7) The permanent fluctuation of subsidy conditions for the establishment of vineyards and the insufficient amount of financial support provided to entities per hectare of land.

For the management of vineyard plantations, the provisions of the Regulation on the accounting records of vineyard plantations in the planting, exploitation, and clearing processes are followed, approved by Order No. 21 of the Ministry of Finance on February 24, 2014. The main aspects of this regulation are presented below, highlighting existing gaps. According to point 10 of the regulatory document, the establishment of a vineyard plantation implies a set of works and actions carried out over at least two consecutive years, starting with the conclusion of the project development contract and ending with the care of the plantation until its reception in the first year of vegetation during one of the summer months. Specifically, it includes the following list of works or actions. In our opinion, some of these works are not mandatory, while others are dubious for the establishment period of young vineyards. According to the Romanian scholar Gh. Bernaz, fertilization is not recommended in the first year, as the vine's root system is still weakly developed and cannot efficiently assimilate nutrients from organic-mineral fertilizers. Herbicides are also not applied in young vineyards, and weed control is done mechanically. As for gap filling, this important task is not considered part of vineyard establishment. Point 13 of the regulation explicitly states that this task is carried out later, after the reception of the plantation in the first year of vegetation, with the determination of the number of dead vines and the preparation of the standardized reception document. A debatable aspect arises after the completion of vineyard establishment works, where a planting certificate is prepared, containing various details regarding the

type and area of the plantation, its location, the designer of the project documentation, the origin, and biological categories of the planting material, etc. However, this certificate (more precisely, its specimen) has several shortcomings: first, it does not specify who forms the commission, who are its members, when and in how many copies the certificate is prepared, what its purpose is, and its real utility for strengthening and diversifying accounting functions; second, some terms and concepts used in the certificate are not sufficiently harmonized with current legislation and entrepreneurial practice or are simply unnecessary. In the same section of the document, another flaw is committed – the misrepresentation of the name of the main type of vineyard plantations. According to Article 5 of the Vine and Wine Law mentioned earlier, this type is referred to as production plantations, while the term "plantations for grapes" is used in the document; thirdly, the content and spirit of the document not only insufficiently comply with the provisions of the Accounting and Financial Reporting Law but often directly contravene them. Thus, the Law stipulates that accounting is kept in the national currency, and Article 19, paragraph (6), letter f) obliges all economic entities to indicate both quantitative standards (which are specific to any type of record-keeping - accounting, statistical, agronomic, etc.) and the monetary values in primary documents. However, in the cited document, the determination of amounts is not provided for and practically impossible (including due to the lack of data on prices); fourthly, the accounting treatment of the notion of net realizable value, which is operated in the regulation, is also debatable. Firstly, this treatment contradicts the definition of the relevant notion in the national accounting standard "Inventories" (for example, the standard refers to the selling price, while the regulation refers to the sales value, which is not the same, as value as an estimation criterion can refer to different quantities of products, whereas price is associated with value reported only for a unit of product). Secondly, the price (especially for table grape varieties) represents an extremely unstable category that changes under the influence of a large number of objective and subjective factors (demand, supply, time of year, geographic location of the buyer, etc.). As a result, the same type of product (in this case, grapes) will be evaluated differently throughout the year, even though the actual costs as the value expression of consumed resources for obtaining it will not change. However, it should be noted that this regulation, which exclusively targets the accounting records of vineyard plantations, is more justified, comprehensive, and integral than the regulations approved previously. At the same time, some clarifications and modifications need to be made to address the shortcomings identified in the developed documents, the terminology used, and the points mentioned above.

In the establishment and care of young perennial plantations, various works are carried out and costs are incurred that differ not only depending on the species of plants (fruit trees, grapevines, or berry bushes) but also on their years of growth (first, second, third, etc.). For example, in the establishment of vineyards with wine grape varieties in the first year of growth, the following technological operations take place: soil leveling, marking the planting spots according to the prepared project, digging holes, planting cuttings, delivering and distributing water, tying the vines to wooden stakes to stabilize the stems and protect them from mechanical damage during soil mechanization, installing trellises, etc. Additionally, the cost of the elaborated establishment project by a licensed entity is paid beforehand, followed by soil loosening. During the mentioned actions, wages, contributions, and bonuses are calculated, diesel fuel and planting material are consumed, auxiliary services are employed, etc. Special attention must be paid to the quality of the planting material and its compliance with current requirements. In accordance with Chapter III of the Technical Regulation "Manufacture, certification, control, and commercialization of material for vine reproduction and vine planting material", the material for establishing vineyards is classified according to the following criteria:

● Depending on the biological value (according to which the cuttings are divided into the following 6 categories: "Selection material", "Pre-base", "Base", "Certified", "Standardized", and "Ordinary"). The

variety purity for all categories (except the last one) must be equal to 100%, and for the "Ordinary" category, it cannot be less than 95%;

● Depending on the phytosanitary condition (in this case, the cuttings are divided into three groups: cuttings free from viruses, bacterial canker, and other harmful organisms with restrictive character; cuttings tested for the presence of viruses and latent form of bacterial canker; cuttings not tested for the presence of viruses and latent form of bacterial canker);

● According to the physiological condition (here, there are matured cuttings and vegetative cuttings);

● In accordance with age (according to this criterion, there are cuttings of 3-4 months, annual cuttings, and biennial cuttings).

The vine planting material is obtained from producers in bundles, bales, bags, or individually. In the first three cases, the cuttings must be packaged in such a way that access to them is prevented by a sealing device in the form of a label or stamp. For producers, the labels represent special forms that are printed at the request of the respective control authority, based on requests submitted by producers. Knowing these details can protect the buyer from making erroneous decisions, from purchasing plasticized or low-quality planting material, which ultimately can lead to unsatisfactory rooting of the cuttings, insufficient fruiting of the plantations, and even premature clearing, with incomplete recovery of previously invested resources.

As the costs associated with establishing and maintaining perennial plantations until they start yielding essentially represent capital investments, enterprises incurring such costs are required to record them for each item of evidence (sector or plot planted in a specific year with a particular species of biological assets), with a breakdown into homogeneous items by content. Accounting practice reveals that the majority of practicing accountants prefer to apply a cost item nomenclature as follows: a) direct material costs (including the following elements: planting material; fertilizers (mineral and organic); plant protection means; other material costs); b) direct labor remuneration costs; c) contributions for state social insurance; d) services; e) maintenance of fixed assets; f) indirect production costs; and g) other costs. Currently, in the case of establishing perennial plantations, the General Chart of Accounts provides for the use of account "Biological Assets Under Construction," which represents an asset account intended for generalizing information regarding the existence and flow of perennial plantations of fruit crops, vineyards, and berry crops until they start yielding, protective forest belts, and forest stands until crown closure, as well as immature hoofed and unroofed animals maintained for the formation, completion, or renovation of the basic herd (flock) of productive or draught animals. Debits to this account record the entry/increase in the value of biological assets under construction (including areas with bushes, young vineyards, and orchards) resulting from acquisition, establishment, or other methods of acquisition, while credits record the exit/decrease in the value of the mentioned assets following their transfer to the exploited biological assets (used as intended) or exiting the enterprise's assets with various occurrences (loss, sale, contribution to the share capital of another entity, etc.). The balance of the account is a debit balance and represents the value of biological assets under construction as of the end of the month, quarter, or year. It should be noted that this value is determined in accordance with the provisions of the national accounting standards "Intangible and Tangible Assets" and "Specifics of Accounting in Agriculture." In practical terms, this clarification means that when completing the balance sheet (for annual reporting or current needs), the data (totals) from the respective ledger are used. It should be noted that officially, there are no second-degree accounts opened for this account. Those who drafted this regulatory act considered that the nomenclature of these assets is limited, the differences between them are insignificant, and the costs of creation are similar. However, reality is

quite different. For example, in the case of raising young breeding cattle, about 80% of the total costs are attributed to feed, while in the establishment and care of perennial plantations, such stocks are not used at all; raising breeding piglets lasts at most a year, while walnut plantations bear fruit only after 8 years of growth; rejected breeding stock can be used for internal needs (e.g., slaughter for meat) without causing significant losses, whereas in the case of damage to young perennial plantations by natural disasters (which occurs quite frequently) or the appearance of gaps due to dubious management (which cannot be excluded), the detection of losses is inevitable, and the lost assets practically become useless for the entity, etc.

A separate aspect regarding the accounting of vineyard plantations in the process of planting, exploitation, and clearing is the trellis. This represents a ground support structure for vineyard plantations and constitutes a distinct type of tangible fixed assets whose actual cost is not included in the initial cost of perennial plantations. Therefore, we will briefly refer to the method and peculiarities of its accounting. Currently, when establishing vineyard plantations in the respective sectors, trellises are simultaneously installed during the planting of the planting material. For this purpose, pits of a certain depth are dug, reinforced concrete posts (marginal, anchored, and intermediate) are fixed, metal hinges are attached to these posts, rust-resistant and break-resistant wire is stretched on these hinges, etc. In the structure of material costs, the decisive proportion belongs to the reinforced concrete posts, the number of which per hectare varies depending on the planting scheme and the species of perennial crops. Additionally, the posts must be sturdy, comply with current technical regulations, and not deform prematurely, as their selective replacement in functioning plantations is a complicated and laborious task. According to legal provisions, the trellis is part of the support and protection structures, and its useful service life is 40 years. The trellis serves as a support for grapevines, contributing, when necessary, to the programmed formation of the vine trunk, the more oriented development of the plantations, and the more rational execution of technological operations (pruning, cleaning, spraying, harvesting, etc.). Typically, these structures begin to fulfill their useful functions starting from the second year of vegetation of the multi-year crops, which at that time have not yet matured as mature biological assets and will enter fruiting (hence, also as part of the productive plantations) later (after 3-6 years, depending on the species and the growth stage of the rootstock). The intended use of the trellis is evident in the fact that from the mentioned year, the grapevine shoots begin to be tied to the wire, thus achieving specific objectives in terms of biological transformation (growth) of the rooted plants. Therefore, the following conclusions can be drawn from the above explanations:

• The first conclusion is that, although the trellis and the commercial perennial plantations are located on the same land and, at first glance, form an integrated system of interconnected elements, in reality, they represent two different immobilized assets that differ by several distinctive signs. Thus, based on their physical nature, the first is a non-biological (industrial) asset, while the second is a biologically agricultural asset. The duration of the creation and preparation for use after destination for the first is relatively short and under normal conditions does not exceed a few months, while for the second, it varies from 4 years to 7 years. The commissioning for the first can take place in the following year, whereas for the second, it occurs over a certain period spanning several years (no less than 3-4). The purpose of the first is to provide support for plants and their constitutive parts, while the purpose of the second is to obtain a planned quantity and quality of agricultural products. Finally, the role played by the first asset is subordinate, while that of the second is primary;

• The second conclusion is that since the commissioning of the trellis and perennial plantations does not coincide in time (the former occurs much earlier), the calculated depreciation of the ground constructions over the useful life span is attributed to two different objects of evidence. In the first few

years, until the perennial plantations come into production, the depreciation in question is capitalized and included in the actual cost of the biological assets in progress. In all subsequent years after the commissioning of the perennial plantations, the depreciation of the trellis, along with the depreciation of the vineyards themselves, qualifies as a component of the costs in the crop sector and is included in the "Maintenance of fixed assets" article, directly influencing the actual cost of the harvested products;

• The third conclusion is that including the trellis in the cost of establishing perennial plantations, as practiced by some enterprises for the purpose of simplifying accounting or due to inadequate professional training of the accounting staff, not only distorts the cost of the mature biological assets but also unjustifiably increases the cost of the harvested products in vineyards due to the depreciation of the trellis over a period equal to the difference between its useful life (40 years) and the useful life of the perennial crops with the flat trunk form (at most 25 years).

The costs associated with installing the trellis on land with young perennial plantations are part of the fixed assets under construction, grouped by sectors or plots occupied by a specific species of immature biological assets and delineated by items. As costs are incurred according to the schedule of items, the account "Fixed assets under construction" (the analytical account of the trellis for each land sector and specific species of perennial crops) needs to be debited, while corresponding credits are made to accounts such as "Materials", "Employee wage-related liabilities", "Social security and medical insurance liabilities", "Auxiliary activities", etc. Subsequently, at the beginning of the second year of vegetation of the young perennial plantations (more precisely, from the moment when the shoots are tied to the wire), the cost of the trellis is determined based on the data from the analytical register. A handover protocol for fixed assets must be drawn up, and the trellis must be recorded as a fixed asset. It is worth noting that concurrently with determining the cost of the trellis as a separate fixed asset, it is necessary to establish its residual value, as the dismantled posts related to the deforestation of unproductive perennial plantations (with expired useful life) have certain consumption qualities, are not completely physically worn out, and can be used for various purposes (for example, installed on other lands allocated for the establishment of more profitable perennial crops; used as support in building wire fences around various production facilities; sold to citizens for domestic needs, etc.). In such cases, the provisions of the national accounting standard "Inventory" can serve as methodological support for calculations, but it is necessary to emphasize that the residual value is used to determine the depreciable value of the trellis put into operation, and the latter is used for the monthly depreciation calculation.

5. Conclusions

According to the conducted study, it was reiterated that the most important biological assets under construction in domestic agricultural enterprises, both in terms of proportion or absolute value, as well as in terms of long-term socio-economic consequences, are represented by the costs related to the establishment and care of perennial plantations until they start bearing fruit. The analysis of the current state of management accounting of biological assets under construction, as well as their particularities, has allowed for the formulation of plausible directions for improving this area, such as: making clarifications and modifications to eliminate the shortcomings identified in the regulatory acts regarding the accounting of vineyard plantations in the planting and exploitation process; specifying the costs associated with the establishment and care of perennial plantations until they start bearing fruit, as well as the accounting treatment of the trellis. Indeed, the author suggests that these measures can assist the personnel responsible for this domain in making well-founded and methodologically correct management decisions to achieve their proposed objectives.

References

*** (2013). Standardele Naționale de Contabilitate / National Accounting Standards. *Monitorul Oficial al Republicii Moldova/ The Official Monitor of the Republic of Moldova,* nr. 233-237 din 22 octombrie 2013. https://www.legis.md/cautare/getResults.

*** (2014). Regulamentul privind evidența contabilă a plantațiilor viticole în procesul plantării, exploatării și defrișării acestora / Regulation on Accounting for Vineyard Plantations in the Process of Planting, Exploitation, and Deforestation. Nr. 21 din 24.02.2014. *Monitorul Oficial/ Official Gazette*, nr. 53-59/310 din 07.03.2014. https://www.legis.md/cautare/getResults?doc_id=45954&lang=ro.

*** *Studiu tematic privind domeniul viniviticol în Republica Moldova / Thematic Study on the Wine Industry in the Republic of Moldova*. https://old.statistica.md/public/files/publicatii_electronice/Recensamint_agricol /Studiu1_viniviticol_ro.pdf.

Balan, I. (2005). Cu privire la repartizarea consumurilor comune aferente culturilor intercalate şi perfecţionarea metodei pronosticării curente a îngrăşămintelor în pomicultură / Regarding the distribution of the common consumptions related to intercalated crops and the improvement of the current method for forecasting fertilizers in fruit-tree culture in fruit growing. *Economica*. ASEM, Chisinau, no. 1, pp. 79-81.

Balan, I. (2005). Particularităţile tehnologice în pomicultură şi influenţa acestora asupra contabilităţii consumurilor / The technological peculiarities in fruit-tree culture and their influence on the consumptions accounting. *Economica.* ASEM, Chisinau, no. 2, pp. 87-89.

Balan, I. (2007). *Contabilitatea micului business / Small business accounting.* Handbook for university studies. Chisinau: UASM, p. 225.

Balan, I. (2021). Calcularea costului unitar al produselor plantațiilor pomicole / Calculation of unitary cost of the products from the fruit trees plantations. *Monitorul fiscal FISC.MD / Fiscal Monitor FISC.MD*. Chisinau, no. 6 (69), pp. 11-15.

Balan, I. (2022). Application of the tools of the "direct-costing" method for the objective evaluation of the activity of the responsibility centers. Scientific-practical symposium with international participation "Reconsideration of the role of the accounting profession. We act today for the challenges posed by the future". USM, Chisinau, pp. 32-36.

Balan, I. (2022). Conceptual aspects regarding the materiality threshold for financial statements as a whol. *The Journal of Accounting and Management*. Danubius University. Galați, Vol. 12, no. 2, pp. 105-113. https://dj.univ-danubius.ro/index.php/JAM/article/view/1854/2175.

Balan, I. (2022). Costul unitar al produselor unor culturi agricole: modul de calculare / The unit cost of the products of some agricultural crops: how to calculate. *Fiscal Monitor FISC.MD*. Chisinau, no. 7 (77), pp. 53-58.

Balan, I. (2022). Perfecționarea contabilității unor costuri de materiale directe din fitotehnie / Improving the accounting of direct material costs in plant culture. *Monitorul fiscal FISC.MD / Fiscal Monitor FISC.MD*. Chisinau, no. 2 (72), pp. 95-102.

Balan, I.; Burlea, E. & Spînu, A. (2017). *Ghid de contabilitate financiară / Financial accounting guide*. ULIM. Chisinau: „Print-Caro" S.R.L., p. 57.

Balan, I. & Frecăuțeanu, A. (2005). *Contabilitatea consumurilor şi calcularea costului produselor agricole (probleme, concepte, direcţii de perfecţionare) / Accounting for consumption and calculating the cost of agricultural products (issues, concepts, directions for improvement).* Chisinau: UASM, p. 218.

Balan, I. & Grigoroi, L. (2006). Contabilitatea uzurii plantațiilor pomicole pe rod și perfecționarea acesteia / Accounting for the depreciation of bearing orchards and its improvement. *Economica*, ASEM, Chisinau, no. 1, pp. 95-100.

Bernaz Gh. (2007). *Cultura viţei de vie / Grapevine Cultivation*. Bucharest: Editura M.A.S.T., p. 112.

Corobca, V., Foșnea, A. & Berango, J.J. (2012). *Viticultura și pepinieritul viticol în Republica Moldova: Impedimente și propuneri de îmbunătățire a situației curente" (privind soiurile tehnice de viță de vie) / Viticulture and Vine Nursery in the Republic of Moldova: Obstacles and Proposals for Improving the Current Situation" (regarding technical grapevine varieties).* Chisinau. https://ro.scribd.com/doc/134499557/Raport-viticultura.

Frecăuțeanu, A. (2015). *Contabilitatea activelor biologice imobilizate / Accounting for Fixed Biological Assets.* Chisinau, p. 246.

Nederiță, A. et al. (2003). *Contabilitate financiară / Financial Accounting*. Chisinau: ACAP, p. 99.